



study no.06: october 1973

the economic cooperation centre for the asian and pacific region
bangkok, thailand

expansion of exports
from + developing
pacific
- asian

*a study of prospects
and problems*

countries

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Publisher's note:

Introducing ECOSEN study 06: Expansion of exports from developing Pacific-Asian countries

Since the establishment of the Economic Cooperation Centre almost three years ago by the nine member countries of the Asian and Pacific Council, we have organised ourselves into a working team, considered much of the work being done by other agencies in our field, initiated or participated in various forums on aspects of regional economic co-operation, undertaken some studies of our own (notably on trade expansion, beef production, industrial complementarity and foreign investment) and commenced publication of a regular Bulletin to disseminate information and promote discussion on some of the intricate issues involved in co-operation to assist the economic development of the region. Some of our current researches are now reaching the report stage and the present series of studies has been devised partly to give these reports a common format, as well as to serve a basic objective of the centre by publishing other researchers' material which we judge to contribute substantially to discussion of regional economic problems and especially the many facets of regional economic co-operation.

Responsibility for initiating, coordinating and reporting this study—the sixth in the 1973 series and one of three which will report ECOSEN's current trade cooperation and expansion research programme—rests with a contract economist, Marcia R. Brewster, the acquisition of whose services by the centre was facilitated by the generous financial assistance of the United States government through its Agency for International Development. In addition to recording ECOSEN's appreciation of the work of the author as coordinator of the project, and the interest shown by officers of AID's regional operation here (the Regional Economic Development Office in Southeast Asia), I am pleased to acknowledge the valuable assistance given willingly by the central banks of most of our member countries and by the counterpart research assistants who shared with the author the conduct of extensive programmes of interviews with businessmen in each developing country of the region. Of particular value to the project have been the services rendered by Mr Narongsakdi Thanavibulchai, Mrs Porntip Placzek (Thailand), Mr Oliviano Regalado (the Philippines), Mr Jae Eun-lee (South Korea), the China Productivity Centre (Taiwan), the Export Development Centre (South Vietnam) and the Foreign Ministry of Japan.

In presenting this trade study, we believe that the approach adopted and the findings which it has produced will make a useful contribution to the discussion of export policy in the Pacific-Asian region. We are fortunate that we have been able to mount this and other export-oriented research projects at a time which is clearly a turning-point for most of our member-countries: each is engaged in a transition process within which both market forces and official policies are causing exports to assume expanding importance in the balance of payments and in the industrialisation process generally. This is probably essential to economic development, and it involves changes in attitude and economic structures which are far-reaching in their effect on the economies of the countries concerned. A particular benefit of the present study to governments anxious to expand (and where necessary to restructure) their countries' exports should be its introduction of the region's private businessmen into the debate at first-hand. Much more detailed and regular consultation between entrepreneurs and policy-makers is necessary of course, and we look forward to observing a continually improving dialogue following this exploration of the problems as seen by the exporters themselves.

A second aspect of the study to which attention should be drawn is its regional approach. Although progress towards regional economic integration is necessarily gradual, the developing coun-

tries of Pacific-Asia have much to give from sharing knowledge in their various attempts to complement their largely import-substitution industrialisation programmes with an "export substitution" orientation. The value of a regional approach towards at least studying trade prospects and problems stems from their expanding acceptance of the benefits to be obtained from becoming each other's customers; from the common nature of their comparative advantages with respect to some key resources (such as labour) and therefore of the products they have to sell outside the region; and, conversely, from the different stages of industrial and export development through which they are passing, thus enabling some to anticipate problems of the basis of others' experience. The strong current growth in Southeast Asia of some industries which previously were central to East Asian industrialisation is an important instance of this, examined in the present study.

As usual, and in spite of the assistance of the agencies of member governments to which I have referred, our researchers have experienced severe difficulties in their attempts to obtain accurate and comparable data from different sources. However, every effort has been made to sift the information available and to supplement official statistics with more detailed industrial information where possible. It is hoped that the information contained in this volume — no less than the discussion of obstacles and prospects — will be of interest and assistance to all those who are interested in the particular industries we have studied or in the more general issues of export development. To such people, in both industry and government, I am pleased to commend this study, the last to be produced during my term at the Economic Cooperation Centre.

*Amnuay Viravan, Director,
Economic Cooperation Centre,
Bangkok, October 1973*

Summary of findings

Our study has concentrated on the export potential of 18 specific commodities falling under three broad headings - primary, intermediate, and finished goods. In general, we have found that rapid export expansion has occurred in those countries which are substituting exports of intermediate and finished goods for primary products. The two member countries of East Asia, Taiwan and Korea, have shown spectacular export growth over the period 1966-72. Taking the two countries together, growth has averaged 34.1 percent per year over the period (see Table 0.2). This tremendous growth has been accompanied by a major shift from primary to manufactured exports since 1960. Because of limited domestic resources and land and due to educated and easily trainable work forces, a rigorous export campaign brought about a shift from land-based to labour-based production. Export substitution of manufactured for primary products began in Taiwan in about 1959, when primary products accounted for about two-thirds of total exports. Export promotion policies were introduced so that exports could become an engine of growth, and numerous incentives were offered to entrepreneurs who could export. A strong entrepreneurial class which had emigrated from Mainland China in the late 1940's took advantage of government encouragement to engineer the take-off. Essentially, the same chain of events occurred in South Korea during the early 1960's. The US and the European countries had discovered Taiwan and Korea as efficient suppliers of low-priced consumer goods which had formerly been supplied by Japan. By 1966, exports from the two countries consisted of 34.6 percent primary products, 36.6 percent intermediate goods, and 27.0 percent finished manufacturers (See Table 0.1). The shift from land-based to labour- and capital-based commodities has continued to the present. From 1966 to 1972, primary product exports were increasing at an annual average rate of 16.8 percent while intermediate goods reached 29.9 percent and manufactures 51 percent per year. By the end of 1972, 54.6 percent of total exports were contributed by finished manufactured goods, while only 15.3 percent came from the primary sector. It is because of this shift to labour-based products that Taiwan and Korea have been so successful during the past decade. At present, obstacles to export facing entrepreneurs in these two countries are primarily in the field of international marketing, since the basic transportation and government policy problems have been solved. They are also facing some raw material procurement difficulties, since domestic resources are limited compared to the rapid expansion of exports which has been achieved. Thus, industrial sectors in Taiwan and Korea have been moving to production of intermediate goods for domestic labour-based industry, while their governments continue to encourage more intense agricultural production.

The East Asian nations can serve as a model to the countries of Southeast Asia, demonstrating export substitution of labour-based for land-based commodities. However, entrepreneurs in Southeast Asia still face numerous difficulties in trying to export their processed and manufactured commodities. So far, apart from Singapore, the urgency of a shift away from primary products has not become apparent to the countries of Southeast Asia, due to their rich land and mineral resources, which continue to dominate their export accounts. Because of their rich natural resources, it is possible for the countries of Southeast Asia to continue their dependence on primary product exports for a long time. Looking at the exports of three countries (Thailand, Malaysia, and the Philippines) in 1966, we see that primary products accounted for 74.5 percent of total exports, intermediate goods for 24.2 percent, and finished products for only 1.3 percent. Growth in primary product exports has averaged only 3.6 percent per year from 1966-72, indicating that the large traditional sectors in these three countries have not kept up with growth in other sectors. Intermediate goods exports have increased at an average of 12.5 percent per year over the same period, while finished goods have shown an average annual growth of 17.4 percent. By 1972, primary products contributed 63.8 percent of total exports, intermediate goods 34 percent and, finished goods 2.2 percent. Although a slight shift from primary products to intermediate goods is apparent, the major intermediate goods exports are still based on natural resources - tin metal and

plywood. In fact, a large part of the shift can be explained by the completion of a tin smelter in Thailand in 1965 which resulted in the classification of tin under intermediate rather than primary goods. In order to achieve a rapid expansion in exports, the countries of Southeast Asia must begin to utilize their vast labour resources, as well as to modernize their agricultural sectors.

The individual governments must assist entrepreneurs to find new products and new markets, and to overcome some of the major obstacles to export facing them. According to the entrepreneurs themselves, the major obstacle to export at present is domestic raw material procurement. Perhaps the government could assist entrepreneurs by encouraging producers' cooperatives, irrigation facilities and infrastructure. The entrepreneurs themselves could improve the situation by carrying out research on improved methods of cultivation and fishing, and setting up their own sources of supply. Other major obstacles to export/result from the lack of facilities necessary to handle manufactured export goods. Most transportation facilities and promotional procedures are still geared to the export of primary products. The situation will only be improved when the governments realize the necessity to introduce meaningful export promotion schemes which will eventually lead to a decreased dependence on primary products. Export promotion strategies must include measures to overcome these obstacles, including aid to the transportation sector, the building of export processing zones, and assistance in negotiations with foreign countries on tariffs and quotas. Promotional efforts will be essential to enable the entrepreneurs to compete internationally, and to bring about a shift to processed and manufactured exports. With careful economic and social planning and cooperation between private and public sectors, the Southeast Asians may supplant East Asia as suppliers of low-priced industrial commodities. In order to encourage a shift to labour-based commodities, Southeast Asia will have to reorient itself for an era of export substitution. This will be accomplished only by taking urgent action to deal with the many obstacles which impede such a transition.

Prospects for six primary commodities

Primary products are still by far the most important exports for developing countries in Southeast Asia, although they no longer dominate the export accounts of East Asia. For the present study, we have chosen six primary commodities of common interest to ECOSEN member countries. The future export prospects for these commodities are mixed, as indicated below. Unless a different export composition is encouraged by the governments of Southeast Asia, entailing a better utilization of land and labour resources, these countries will continue to rely on primary exports for many years to come.

The potential for expanding exports of frozen sea-food are very good, if the countries of Southeast and East Asia can begin to cultivate shrimp under controlled conditions. There are no demand constraints on the expansion of exports at present, and it seems that demand will continue its unprecedented rise for some time to come. It is probable that export expansion will be limited only by supply constraints in the future. The growth of exports in canned foods is slower than that for frozen foods. Taiwan has found large world markets for canned vegetables such as mushrooms and asparagus, but has had to limit its exports due to saturation of world markets. The strong competition in Southeast Asia for canned pineapple exports has resulted in falling world prices and decreased export earnings in recent years. Since more countries are producing canned pineapple for export each year, the situation is not expected to improve in the near future. The range of canned goods should be diversified to include tropical fruits other than pineapple, vegetables and seafood. The ability to capture markets would be improved if the dependence on pineapples decreased. It is probable that canned goods will also become important in the domestic markets of Southeast Asia, as these countries become more affluent.

The demand for sugar and consequently, world prices, are high at present, making sugar a very good export earner. While a world shortage of sugar persists, export prospects for Thailand, the Philippines, and Taiwan are very bright. Since the major part of processing is carried out domestically, a higher manufacturing value-added accrues to the country of origin than for most primary products. It is expected that demand from major markets in the region—Japan, Malaysia, Singapore and Sri Lanka—will continue its steady rise in the future. However, new suppliers (possibly Indonesia) will be

emerging, lessening the sugar shortage. Until alternative uses are found for the land planted to sugar cane, this crop will remain a good source of foreign exchange. The potential for expanding exports of tea from Malaysia, Taiwan, and Vietnam, especially to the European market, are definitely limited. There is a world excess supply situation, and countries in South Asia completely dominate the world market. In addition, Mainland China is gaining a large portion of the Asian tea market because of low prices and good quality. The commodity does not seem to warrant special promotion, as it is probable that land resources could be utilized more profitably for other crops. Taiwan has reduced her production greatly due to the limited amount of arable land there. Long-term demand prospects are not favorable.

Tobacco is a good export crop for land-rich countries, due to steadily increasing world demand. For countries with limited arable land such as Japan and Taiwan, land resources will be used for higher priority crops. Korea's production and exports have been steadily increasing, showing good returns. In Thailand, tobacco is a good substitute for less-desirable crops in Northern areas. In the Philippines, quality improvements are essential to get the full value which should be derived from export of tobacco. Expansion of export is limited mainly on the supply side — because of low yields and low quality in certain Southeast Asian countries. Copper ore and other minerals have good demand prospects, due to their extensive use in all areas of industry and natural supply limitations. However, when exported in the raw ore form, the major portion of value-added accrues to the importing country which carries out smelting and refining operations. Thailand and Malaysia have both set up their own tin smelters, which has resulted in greatly increased export earnings for their natural resources. When the Philippines builds its own copper smelter, the export potential of copper should increase greatly. If it moves into refining operations, many possibilities for producing industrial intermediate and finished goods will emerge.

There were 51 producers of these six primary commodities interviewed during the course of our survey. The main obstacle to export, according to two-thirds of those interviewed, was the procurement of domestic raw materials. Such a response strengthens our recommendation that these countries should become less dependent on primary products for export. Since the demand situation is presently favorable for at least four out of six of our commodities, expanded exports are limited only by domestic supply. Two-pronged measures must be introduced to modernize agriculture and to shift industrial resources into more labour-based commodities. The second and third major obstacles facing the primary product producers are lack of ships and high freight rates, constituting important problems in the transportation sector. Finally, they face major difficulties in the marketing sector — keen competition among producing countries and import restrictions of consumption countries.

Prospects for intermediate resource-based products

Intermediate resource-based exports are becoming increasingly important as a source of foreign exchange, especially in Southeast Asia. Intermediate goods have accounted for the major part of the evident shift away from primary products exports. Many of the commodities in this category started out as import substitution industries. During the period of import substitution, labour skills and entrepreneurial capabilities improved. When surpluses appeared on the domestic market, entrepreneurs were able to channel surpluses into the export market to earn foreign exchange. Exports have provided a good outlet for domestic surpluses and have, in many cases, become the primary objective for production of resource-based products. Prospects for vegetable oils as a whole are quite good, due to steadily increasing demand. However, the countries of Southeast Asia must be careful not to create a large excess supply situation, especially in coconut and palm oil. Although prices for both these products are good at present due to world shortages, this is a temporary phenomenon. New producers of these oils (Indonesia, Africa) are gaining a large portion of the traditional markets of the Philippines and Malaysia. In addition, consumers of coconut oil are making an attempt to shift to other cheaper oils. At present, it is difficult to grow temperate zone soyabean in tropical climates, and thus, new varieties must be developed before Southeast Asian countries can rival the US as suppliers. In the meantime, prospects for oils other than these — sesame, cottonseed, groundnut, castor, and so on — seem to be more favourable.

Long term prospects for rubber tyre manufacture and export are very good. Due to the local availability of natural rubber in Southeast Asia, these countries would benefit from domestic production of rubber tyres. Production and export in Southeast Asia, especially Malaysia, has been increasing rapidly in recent years, and will continue to do so due to high demand in developing countries of Asia, Africa and the Middle East. The major constraint to the increased utilization of domestic raw materials is the low quality of natural rubber in countries such as Thailand and the Philippines. Research on improved processing of raw latex must be carried out to assure quality standards in the finished product. Perhaps Malaysia's extensive research on processing natural rubber can be of help to Thailand and other producing countries. Plywood shows good prospects for Southeast Asia, as long as these countries can retain their timber resources. Demand for plywood keeps rising, and shows no indication of slowing down. Japan no longer offers strong competition, because she is no longer price-competitive. At present, however, developed countries such as the US are paying very high prices for timber from suppliers in Indonesia and the Philippines, making it more profitable for them to export the raw material than to process it domestically. This situation is having an adverse effect on the industries in Taiwan and Korea, which depend totally on imports of logs. In the long run, the countries which have the timber resources should be the ones to carry out the processing. Thailand and Malaysia have already restricted exports of logs, and the Philippines is planning to introduce a ban on exports in 1976. The countries of Southeast Asia must organize logging and replanting, if they expect to retain their advantage in this commodity. Besides raw material problems, shipping and freight costs present obstacles to export of this commodity, especially in the Philippines. Plywood plants are widely dispersed, making it difficult to fill large orders rapidly and efficiently. Although plywood promises to be a good export product for Malaysia, Thailand has not yet been successful in entering the competition. Probably Thailand will concentrate on other related products, such as hard-board, chipboard, and veneer. The huge industries of Taiwan and Korea may begin to slow down, due to raw material problems and competition from new producers.

Prospects for textile products are excellent at present, limited only by quotas imposed by importing countries. The tremendous growth achieved in East Asia in synthetic and knitted fabrics indicates that this labour-intensive industry also has good future potential for Southeast Asia. However, the efficiency of East Asia's production and the low price of exports have caused industrialized countries to erect both tariff and non-tariff barriers to export. In response to such restrictions, East Asia has moved to production of new more highly-processed products and has moved to new markets in Africa and the Middle East. Japan has begun to reduce production in the textile industry, in line with its industrial structural improvement policies. Thus, East Asia and Southeast Asia have not only gained part of the market which Japan used to supply, but also they are supplying Japanese demand for imported fabrics. In addition, Taiwan has been moving steadily into home production of synthetic fibres, as her petrochemical industry develops. While Taiwan will devote more resources to sophisticated textile products, Southeast Asia can gain an increasing portion of the market for low-priced textile products. The potential demand in developed countries is at present severely limited due to quota restrictions imposed by the governments in the US, Canada, and the EEC. In order to encourage larger quotas for textile products, the countries from the region must present a united front for bargaining after conducting negotiations among themselves. In the long run, rising labour costs in industrial countries will force them to introduce industrial adjustment schemes and recognize the comparative advantage of developing countries.

Present prospects for cement are excellent due to a supply shortage in Japan and high demand from Indonesia and Indochina. In response to high export prices at present, most of the large cement firms in the region are planning to expand operations. However, with many new companies coming into operation in the Philippines, as well as an expansion in present capacity in Korea, Taiwan, and Thailand, it is probable that another excess supply situation will occur in the next several years. It will undoubtedly be possible to sell domestic supply surpluses on the international market. However, too great an expansion will result in very low export prices, and dumping of the commodity. Cement should not be over-promoted as an export industry in the region. The situation for iron and steel bars and rods is essentially the same as cement. Present world demand and prices are high, due to a Japanese shortage and reconstruction demands in Vietnam. However,

this import-substitution industry should not be overpromoted for exports, because a saturation of the market and low export prices may occur in the next few years. Producers should be encouraged to produce a limited supply for export. However, overproduction will lead to problems, especially when Japan's industry resumes full production.

Obstacles.— There were 74 firms producing these commodities which were interviewed for our survey. The major obstacles facing them fall under the transportation category — high freight rates and an inadequate number of ships. Such problems are a direct result of the nature of these commodities — generally heavy, bulky low-priced goods. Freight rates are certain to add a large percentage to the f.o.b. export price. Transportation problems could be alleviated in the short run by a direct freight subsidy given to exporters of products using mainly domestic raw materials. Also a central shipping agency could be set up to handle shipping requests from all sources. Such an agency could bargain with conference carriers on rates, and could assure exporters space on ships. In the long run, the countries of Southeast Asia must think seriously about building up their own shipping fleets. Most goods from Taiwan are now carried by Chinese vessels; and entrepreneurs in Taiwan are no longer overly concerned about transportation problems. If the Southeast Asian nations want to encourage a shift to intermediate and finished goods, aid to the external transportation sector is essential. Other major problems facing the producers of goods in this category are raw material procurement and marketing problems. As for raw materials, the industries themselves must try to organize their sources of supply, hopefully with assistance from the government. This is particularly a problem in the plywood industry. Difficulties with keen competition are inevitable, since these industries generally represent the first ones to be established in developing countries. Each new producer in trying to export to a market dominated by other developing countries which have more efficient industries. Governments might extend assistance to new exporters, to speed the development of entrepreneurial capabilities. However, such assistance should be withdrawn as soon as possible after exports gain some portion of the market. Finally, the fifth most pressing obstacle to export of these commodities is unusual discrimination of the government, including export and import bans and export taxes. Cooperation between the public and private sectors is essential before this obstacle can be overcome. The two sectors must hold a dialogue to determine the best mix of policies which would make available enough resources for industry without jeopardizing the country as a whole.

Prospects for finished manufactured products

A definite shift to exports of finished manufactured exports has occurred in the East Asian member countries during the latter 1960's and early 1970's. Exports of industrial finished goods in Taiwan and Korea jumped from 27 percent of total exports in 1966 to 54.7 percent in 1972. A very slight shift to finished goods was evident in Southeast Asia, with the share of this category increasing from 1.3 percent of total exports in 1966 to 2.2 percent in 1972. The countries of East Asia have already achieved the goal of export substitution of finished goods for primary goods. Perhaps the next step in evolution will be away from labour-intensive goods to capital-intensive high-technology exports. As for the six commodities included in our survey, Taiwan and Korea dominate the export markets in every case. However, as these two countries begin to feel the pressure of lower wages from Southeast Asia, perhaps the latter countries will begin to obtain a larger share of the international market.

Prospects for tableware exports are good from the demand side, since developed countries will increasingly look for developing country suppliers of this commodity. Export prices are high at present, and will probably continue to rise. However, the costs of imported stainless steel sheet are very high, and perhaps supply potential is limited until producers begin to manufacture their own raw materials. Tableware is a low-priority export in East Asia, and highly-skilled labour in general prefers to work in higher priority industries. Thus, a shift from producers in East Asia to Southeast Asia would give the commodity more export potential from the region. Prospects for electronics products are excellent for East Asia, as demand has grown extremely rapidly with modernization and electrification in all countries. The highly-skilled labourers in East Asia can be utilized to produce precision electronics consumer goods for export to developed countries. As long as East Asia can maintain high quality standards there is almost no limit to the potential for expanded

Table 0.1 Exports by commodity group and change in share of total exports

1966-72; \$(US)million and percent

	Share of						Share of			
	1966	total	1967	1968	1969	1970	1971	1972	total	exports
East Asia										
Primary gds	286	36.4	277	402	446	523	610	696	15.3	
Intermediate	288	36.6	371	432	567	765	940	1,365	30.0	
Finished	212	27.0	313	463	720	1,109	1,663	2,479	54.7	
Total	768	100.0	961	1,297	1,733	2,397	3,203	4,540	100.0	
Southeast Asia										
Primary gds	2,058	74.5	1,975	2,042	2,332	2,416	2,421	2,517	63.8	
Intermediate	669	24.2	690	779	832	981	1,114	1,341	34.0	
Finished	34	1.3	33	40	47	55	61	87	2.2	
Total	2,762	100.0	2,698	2,861	3,211	3,452	3,596	3,945	100.0	

Legend.— East Asia: Korea and Taiwan; Southeast Asia: Thailand, Malaysia and the Philippines; Primary products: SITC categories 0, 1, 2; Intermediate goods: SITC categories 3, 4, 5, 6; Finished goods: SITC categories 7,8.

Sources.— CIECO: Industry of Free China; Bank of Korea: Monthly Economic Statistics; Bank Negara Malaysia: Quarterly Economic Bulletin; Central Bank of the Philippines Statistical Bulletin; Bank of Thailand: Monthly bulletin.

Table 0.2: Percentage growth rate of exports by commodity group

	1966-7	1967-8	1968-9	1969-70	1970-71	1971-72	1966-72 annual average
East Asia							
Primary	-3.3	45.2	10.8	17.2	16.8	14.1	16.8
Intermediate	28.8	16.5	31.2	35.0	22.8	45.2	29.9
Finished	47.4	47.9	57.8	53.9	49.9	49.1	51.0
Total	22.2	34.9	33.6	38.3	33.6	41.7	34.1
Southeast Asia							
Primary	-4.0	3.4	14.2	3.6	0.2	4.0	3.6
Intermediate	3.0	13.0	6.8	17.9	13.6	20.4	12.5
Finished	-6.2	23.6	16.7	17.3	10.4	42.3	17.4
Total	-0.2	6.0	12.2	7.4	4.2	9.7	6.6

Source: Calculated from Table 0.1

exports. In Southeast Asia, Singapore has been gaining an increasing portion of the world market. However, expansion from the other countries in Southeast Asia is limited by a low level of technology. In future the potential for exports from Southeast Asia will increase, as labour skills and the capital base are developed.

The potential for furniture exports is also considered to be very good. Japanese and US demand for Chinese-style wooden furniture is high and rising, and Australian demand for rattan knock-down furniture is increasing. Highly-skilled woodworkers in Southeast and East Asia will be the key to success of this export. Although most of the industry in Southeast Asia is still conducted on a cottage-industry scale, certain furniture producers in Singapore have combined to establish a medium-scale export industry. This may provide a good model for other producers in Southeast Asia. The main problem facing producers of furniture is quality standards. Research on curing wood to prevent shrinkage and breakage is essential to assure continued orders from developed countries. Travelgoods also have good potential due to the diversity of the products in this category and the ability of countries at all stages of development to produce travel goods. The inter-

national market for such products is excellent at present, and should continue to grow in future. The only problem is a shortage of raw materials, both leather and synthetics. However, the raw material situation should improve when developing countries begin manufacturing their own synthetics.

Expansion of garment exports is limited only by developed countries' quota restrictions. This has been one of the fastest growing industrial sectors in all the countries of our survey, and it has provided the countries of East Asia with a good portion of their export growth. Quota restrictions in the US have led to a search for new markets in Europe, Australia and the Middle East. Since the labour-intensive garment industry has been declining in developed countries it should expand in developing countries. While the countries of East Asia move to more highly-processed garments, Southeast Asia will move into the low-priced garment categories. Footwear also promises to provide very good prospects for East and Southeast Asia. This is another declining industry in developed countries, due to the very high labour costs in Europe, Japan and the US. Major former producers of footwear have now become importers, and the import demand is being met from East and Southeast Asia. Demand will only rise in this commodity, assuring good future markets for efficient producers.

Obstacles.— There were 50 firms producing these six commodities interviewed in the course of our survey. The major problems facing them were insufficient domestic supplies of raw materials, keen competition among the countries of the region, import restrictions of developed countries and an inadequate number of ships. The raw material situation results from the present inability of the countries of the region to produce intermediate goods for use in finished goods manufacture. An important development which is taking place in Taiwan at present is the increased domestic production of such goods. Present worldwide shortages of other intermediate goods are probably temporary. Marketing problems are inevitable since all of these products are also produced by developed countries to protect their own industries. When developing countries are able to jump the tariff barriers imposed by developed countries the latter impose quantitative restrictions. The marketing problems can be alleviated by cooperation among developing countries and negotiations with the developed world. Shipping problems can be alleviated by government assistance to the transportation sector or production for specific markets in export processing zones. As the countries develop, they will establish their own shipping fleets. In the long run domestic lines are the only answer to dependence on conference line carriers.

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Notes: All dollar values in the text are United States dollars unless otherwise specified. Exchange rates used to convert statistics compiled in local currencies are those cited in the IMF's International Financial Statistics, averaged over calendar years where necessary. Symbols in square brackets refer to references and sources, listed in detail in the appendix commencing on page 119.

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confronting the country. Pure economic theory and official government policies often fail to identify the problems which the entrepreneurs themselves consider most important. The businessmen's perception of the problems facing them may provide a guide for policy-makers who want to encourage them to export. Except in countries where there is close cooperation between private and public sectors (Japan and Taiwan), governments may enact incentive policies without reference to the people who have to carry out export. This problem will be explored in the third study of the ECOSEN trade expansion project mentioned above.

Sources of data

In general, two major sources of raw data were used as well as numerous sources of secondary data for background information. Raw trade data by commodity were supplied by questionnaires to governments, while industrial data were compiled from interviews with businessmen. Trade promotion booklets as well as academic studies provided background information on the several industries. Valuable statistical data were obtained from government institutions, particularly Central Banks, in each of the ECOSEN member countries. After the commodity list was chosen (see Chapter 2), a questionnaire was sent to each member government in order to ascertain total volume and value of exports and imports by commodity for 1969-71, as well as tariff and non-tariff barriers to export and price differentials. To determine the latter, we asked governments to list domestic ex-factory prices, f.o.b. export prices and C & F import prices. In general, the information obtained on volume and value of trade was quite good, and has been used in Chapters 3 to 5. Also, we were able to obtain origin of imports and destination of exports, as well as tariff rates by commodity for most countries. However, none of the governments was able to furnish data on price differentials, and very few could provide information on specific "export promotion incentives" or "non-tariff regulations."

The second major source of data consisted of interviews with selected businessmen producing the commodities. Interviews were carried out by the author and/or a local counterpart with firms' chief executives or executives in charge of export or marketing. Originally, the sample consisted of 40 to 45 firms in five countries (Taiwan, Korea, Thailand, the Philippines and Malaysia) plus a more limited number in three countries (Japan, Vietnam, Singapore). The interviews were based on a standard questionnaire, major sections of which relate to the export orientation and success of the firm, major markets and sources of raw materials, the production situation, government incentives and benefits received, and obstacles to export. Individual results from certain firms are presented in the industrial profiles of Chapters 3 to 5. Finally, secondary sources provided valuable industrial background information by country. Included in this group of sources are the trade promotion agencies (e.g., Japan External Trade Organization, Korean Trade Promotion Corporation) and industrial promotion agencies (i.e., Boards of Investment in Thailand and the Philippines, the China Productivity Center, and the Federal Industrial Development Authority in Malaysia). In addition, studies of the industrial sector were available for some countries and official year books provided some limited information by industry. In the industrial profiles the reader will note a mixture of data received from these three major sources. Data from governments were used to show recent trends in trade, secondary sources were used to provide background data, and businessmen's questionnaires were used to show present attitudes and trends by industry.

Data problems

There were two general problems with data collection which have undoubtedly caused inconsistencies between countries for every commodity. The most important of these is classification problems. It was an extremely time-consuming task to find relatively comparable classifications for our commodities by the three main systems used: Standard Industrial Trade Classification (SITC), SITC-Revised (SITC/R), and Brussels Tariff Nomenclature (BTN). In order to obtain comparable classification numbers between SITC/R and BTN, we used the Commodity Indexes for Standard International Trade Classification, Revised, published by the United Nations in 1963. However, the indexes presented therein are not absolutely accurate, especially since they included only four-digit indices. It is often the case that the SITC/R classifications are less detailed than the

BTN, and we had to use several six-digit BTN numbers in cases where four-digit SITC/R categories were sufficient. In addition, there were difficulties involved in translating SITC numbers to SITC/R classifications. It is probably true that since each country uses a different classification system, the final figures are not exactly comparable. This is especially true for commodities which include more than one four-digit classification (canned fruits and vegetables), or which are classified by many six-digit categories rather than one four-digit category (textiles and garments). In addition, some countries (especially Taiwan) use their own classification systems, which are not at all comparable to any of the major systems. Although Taiwan switched to BTN numbers in 1972, it was necessary for EOCEN to translate SITC/R classifications into CCC (Chinese Commodity Classifications) in order to obtain data that was somewhat comparable to the other countries. After many revisions were made on government data from all countries, we feel that we have statistics which at least approach uniformity.

The second general problem affecting consistency is currency problems, since we have presented all our figures in US dollars. For the three-year period, 1969 to 1971, all of the countries except Thailand and Taiwan revised their dollar exchange rate at least once. The major changes which were experienced in the Philippines and Korea have not affected the data significantly, since their trade figures are presented in dollar terms. However, individual industry data from these two countries are often presented in their home currencies. The trade data received from Vietnam were in piastres, a currency that has been changing constantly over the period and which has been plagued by multiple exchange rates. Malaysian, Japanese, Australian and New Zealand exchange rates were floating in relation to the dollar at various times during the period, making translation into US dollars difficult. For all these countries, we have used the exchange rates presented in the IMF International Financial Statistics, averaged over the year. Average rates do not take into account the time of the year that exports were actually shipped, and thus there must be some distortion in overall export figures which were presented in local currencies. Because of such discrepancies, we cannot guarantee the consistency of our figures. Hopefully, however, the data presented in the following chapters will give some indication of the relative importance of each country as an exporter.

Australia and New Zealand.—The main data problem for these two countries is that they use fiscal years for gathering data rather than calendar years. All figures from these two countries were gathered on a fiscal year period July through June. In such cases we have considered the year ending, for example, in June 1971 as the calendar year 1971. In addition, since industrial data was not collected from these countries, official yearbooks for 1971 and 1972 were used to gain some background data on industries in which Australia or New Zealand are major exporters. The type of source is generally not very detailed and often not too helpful. However, the official yearbooks do give some idea of the situation prevailing in major industries. **Japan.**—Although Japanese trade data seem to be very reliable, they are presented in yen terms, which may create inaccuracies when translated into dollars. For certain industries, interviews of major manufacturers in Japan provided excellent data. Other background data found in JETRO (Japan External Trade Organization) pamphlets and studies on the present economy of Japan were also excellent.

Korea.—Generally trade data obtained from the Bank of Korea is considered to be accurate, especially since they are calculated in US dollars. Background data for Korea's main export industries were obtained from the **Korean Trade Directory 1971** and from pamphlets supplied by KOTRA (Korea Trade Promotion Corporation). This information, as well as that from interviews with businessmen, is considered to be quite complete and reliable. **Taiwan.**—The major data problem encountered was the use of CCC (Chinese Commodity Classifications) for trade data. Background information by industry was obtained from the **China Yearbook 1971** and from the China Productivity Center. The information collected from businessmen was adequate, but not very enlightening. Often annual reports from firms provided more information than the interviews themselves.

The Philippines.—Trade data collected by the Central Bank of the Philippines seem to be quite accurate. However, it was difficult to check on suspect figures due to the fact that trade yearbooks

for recent years have not been published and therefore are not available at ECAFE. Computer printouts of recent trade data are available in the Philippines. The major problem in assessing the industrial situation in the Philippines is that there is no recent published information on the industrial structure. Some information was obtained from the Board of Investments on certain industries, but in general background information by industry is lacking. On the other hand, information gathered from businessmen is excellent and complete; the businessmen's questionnaires received from the Philippines are considered the best from any country. Thailand.— As for trade data, the main Thai difficulty was a switch from SITC to BTN classifications in 1970, making data in 1969 somewhat inconsistent with those from later years. However, annual customs data from Thailand are very good and up-to-date, and data compiled by the Bank of Thailand are considered to be accurate. A good assessment of the industrial structure is not yet available in Thailand, but some detailed information is available for certain industries from the Board of Investment. In addition, some information is available from the Applied Scientific Research Corporation of Thailand, *A Description of the Industrial Sector in Thailand* (1973). However, this study is not in all cases reliable. Information obtained from businessmen is quite good.

Malaysia.— Of the major countries in the analysis, Malaysia presented the most difficulties both in terms of trade data and industrial data. The major problem with trade data is that they have been gathered in three sections: West Malaysia, Sabah and Sarawak. Although yearbooks on Malaysia as a whole have been completed for 1969 and 1970, they are not readily available. For 1971, information from West Malaysia and Sabah was available separately in late 1972, but that from Sarawak was not available until February 1973. Included in the separate yearbooks were imports and exports between East and West Malaysia. Thus, it was necessary to subtract intraregional trade, as well as to add up the trade figures from the three regions. This had to be carried out in Kuala Lumpur and was rather time-consuming. The resulting trade figures are not considered to be very accurate. In addition to these difficulties, background data for the industrial sector seem to be totally lacking, except for industries in which Malaysia is a major exporter (palm oil, rubber). Some information was obtained from the World Bank, but it is rather limited. Finally, the data obtained from businessmen were not in all cases accurate. **South Vietnam.**— As expected, the data from Vietnam were rather incomplete due to wartime conditions. Currency problems abounded, and many of the needed trade data were not available. In addition, exports from Vietnam have been at a standstill for the last several years. For commodities which Vietnam is exporting at present (frozen shrimp and tea), the country is included in the analysis. However, because of abnormal conditions, very few exporters were interviewed, and Vietnam has essentially been excluded from the present study. It is hoped that, as reconstruction takes place, export prospects for Vietnam can be analyzed in more depth.

Selection of commodities

The first two of the three-part trade expansion project have been based on lists of commodities of special export interest to the developing member countries of ECOSEN. The selection of specific commodities included in the present study has been made on both a subjective and objective basis. First, the member countries submitted subjective lists of commodities which they wanted to promote. Preliminary commodity selection was made on the basis of these lists. Then, some objective standards were applied to the commodities included on the preliminary list. On the basis of these objective standards, we eliminated some commodities and added some other commodities to the preliminary list. The selection process used in determining our final list of commodities is outlined below.

Commodity lists from ECOSEN members

The first step in carrying out the trade expansion project was to request each member-government to submit a list of 10 commodities which it especially wanted to promote for export. Seven out of the nine countries submitted such lists, the exceptions being Australia and Malaysia. Since Australia is a developed country, and since the present study is mainly concerned with developing countries' exports, the lack of a list from Australia did not greatly matter. However, we added a few commodities which are known to be of interest to Malaysia, in order to give that country some stake in the final selection. The country lists are presented in Table 2.1 From these individual lists, we compiled a list of all commodities mentioned by two or more countries, viz: 1. Frozen fish and shrimp; 2. Canned foods; 3. Logs; 4. Copper concentrates; 5. Vegetable oils; 6. Rubber products; 7. Wood products; 8. Plywood; 9. Textiles; 10. Cement; 11. Iron and steel bars and rods; 12. TV and radio receivers; and 13. Garments. All of these commodities have been retained in the final list, with the exception of logs which have been subsumed under plywood. In addition, we added certain commodities to the preliminary list which only one country had mentioned, but which the author's ECOSEN colleagues considered to have good export prospects for more than one country in the region: The additional commodities were: 14. Raw and refined sugar; 15. Tea; 16. Tobacco; 17. Fertilizers; 18. Leather products; 19. Jute products; 20. Silk fabrics; 21. Porcelain and ceramic products; 22. Insulated wire and cable; and 23. Wigs.

These 23 commodities were reduced to 20 by subsuming certain items under single headings (such as logs and plywood under wood products). This preliminary list of commodities, which formed the basis of the government questionnaire mentioned in Chapter 1, is presented in Table 2.2. After the individual governments had submitted trade data on these 20 commodities to ECOSEN, it was possible to ascertain the actual volume and value of exports of each commodity by country. Since this study is primarily concerned with exports from developing countries in the region, it was decided to eliminate those commodities which were exported on a significant scale by fewer than three out of the six developing ECOSEN countries in 1971. Any country which exported a commodity with a value over \$100,000 in 1971 is considered an exporter. On the basis of "common interests to developing countries" (i.e. exports from three or more developing countries), we eliminated the following seven commodities: Calf and cattle leather; Jute products; Ceramics products; Fertilizers; Insulated wire and cable; Silk fabrics; and Wigs. Of these eliminated commodities, two (fertilizers and leather products) had originally been mentioned by only one developed country, and were exported only in small amounts by one or two developing countries. Two commodities (jute products and ceramic household products) are specialties of only one country, and another two (wigs, silk) are specialties of two countries only. At present, these four commodities show little potential for the other developing countries of the region. Finally, insulated wire and cable were exported by only two countries and the group as a whole has a huge trade deficit in this commodity. Two exceptions were made to the rule of "common interests": vegetable oils and copper ores. Only two countries exported palm and coconut oil (Malaysia and the Philippines), the vege-

Table 2.1 : Lists of preferred commodities submitted to EOCEN by member countries

<i>Philippines</i>		<i>Vietnam</i>	<i>New Zealand</i>
<i>BTN</i>		<i>BTN</i>	
20.04	Pineapple in syrup	40.01	Rubber
17.01	Centrifugal sugar	05.07	Duck feathers
17.01	Molasses, inedible	25.05	Silica sand
23.06	Copra meal	03.03	Frozen shrimp
12.01	Copra	44.03.1	Logs
44.03	Mahogany logs	09.02	Tea
26.01c	Iron ore	09.06	Cinnamon
26.01e	Copper concentrates	10.06.3	Rice
15.07a	Coconut oil, crude	03.01	Fresh fish
44.15	Plywood	03.02	Dried fish
		08.01	Fresh & dried bananas
<i>Japan</i>		<i>Korea</i>	<i>Thailand</i>
<i>BTN</i>		<i>BTN</i>	
25.23	Cement	14.05.21	Dried laver
31.02-04	Mineral & chemical fertilizers	24.011	Leaf tobacco
51.04	Woven fabrics of man-made fibres	44.15	Plywood
73.10	Bars and rods of iron & steel	50.02	Raw silk
73.13	Sheets & plates of iron & steel	55.09	Other woven fabrics of cotton
73.15	Hoop & strip	60.05	Outer garments, knitted or crocheted
85.06	Electric fans	61.01	Men & boys outer garments
85.15	Television receivers	61.03	Men & boys under garments
90.07	Photographic cameras	61.11	Accessories for articles of apparel
		67.04	Wigs & artificial eyebrows
<i>Taiwan</i>			
<i>BTN</i>			
60.05	Outer garments, knitted		
60.06	Knitted or crocheted garments, elastic		
55.09a	Other cotton fabrics woven		
51.01a	Yarn & thread of synthetic fabrics		
85.15a	TV receivers		
85.15b	Radio receivers		
85.15c	Other telecommunication equipment		
44.15	Plywood		
84.51	Calculating machines		
03.01	Fish, fresh & frozen		
73.10b	Iron & steel bars & rods		
20.01	Canned vegetables		
			<i>Malaysia</i>
			Palm oil
			Rubber products

table oils specifically mentioned in our questionnaire. But, since a third country (Thailand) placed the general commodity on the list for special promotion and since Thailand exports increasing amounts of groundnut oil, we have retained the commodity in the survey. Copper ores are also exported by only two developing countries, but we have decided to retain it as an example of the mining industry as a whole.

Objective standards for selection

The next step in the selection of strategic export commodities was to formulate some objective standards to test the export potential of each commodity. This portion of the first study was initiated by Dr Murakami, on the basis of whose standards we have somewhat modified our preliminary list. He has concentrated his analysis on exports from the developing countries of the Asian and Pacific region to all developed countries. Besides EOCEN members, Korea, Taiwan, the Philippines, Malaysia, Taiwan and Vietnam, he has included Hong Kong, Burma, Laos, Cambodia, Singapore and Indonesia in his study. We feel that if a commodity shows good potential by objective standards for these 12 countries, it will in general have good potential for the 6

Table 2.2: Preliminary list of 20 commodities and classifications

BTN	SITC/R	SITC	Commodity
03.03	031.3	031.03	Crustacea and molluscs, fresh, chilled, frozen
09.02	074.1	074.01	Tea
			Vegetable oils
15.07G	421.2	412.02	Coconut oil
15.07H	422.2	412.06	Palm oil
	061.1	061.01	Sugar, raw beet and cane, and refined sugar and other products of the refining of beet and cane sugar
17.01	062.2	061.02	
20.01-06	053.9	053.01	Fruits and vegetables, prepared or preserved by vinegar, or acetic acid, with or without sugar (canned)
	055.5	055.02	
24.01	121.0	121.01	Tobacco, unmanufactured
25.23	661.2	661.02	Cement
26.01C	283.11	283.01	Copper, ores and concentrates
31.02B	561.1	561.01	Nitrogenous fertilizers
40.11	629.1	629.01	Rubber tyres and tubes for vehicles and aircraft
41.02	611.4	611.01	Leather and leather products
41.02	611.4	611.01	Calf and bovine leather tawed dyed designed
42.02	831.0	831.02	Travel goods, handbags & similar articles of leather or of composition leather
			Wood products
44.03	242.3	242.03	Sawn logs and veneer logs, non-conifer
44.15	631.21	631.02	Plywood, etc. and veneered panels, inlaid wood
91.04	821.0	821.01	Furniture of wood
			Fabrics
50.09	653.11-2	653.01	Woven fabrics of silk other than noil silk
55.09	652.2	652.02	Cotton fabrics, woven, bleached, dyed other than cotton gauze and terry fabrics
			Jute products
57.10	653.4	653.04	Jute fabrics, woven (including hessian cloth)
59.04	655.6	655.06	Twine, cordage, ropes and cables
			Garments
60.05	841.44-8	841.03	Outer garments, knitted or crocheted, not elastic or rubberized
61.02	841.12	841.05	Women's, girls' and infants' outer garments, not knitted or crocheted
67.03	899.94-5	899.0406	Wigs, false beards, switches, etc. of human or synthetic hair
67.04			
69.11-2	673.21	666.03	Ceramics, tableware and other domestic or toilet articles of porcelain, china and other ceramic materials
73.10B	673.21	681.04	Iron and steel bars and rods and hollow mining drill steel, other than that of high carbon or alloy steel
85.23	723.1	721.13	Insulated wire and cable
			Radio and TV receivers
85.15A	724.1	721.0415-7	TV broadcast receivers, whether or not combined with gramophone
85.15B	724.2	721.0409-11	Radio broadcast receivers, whether or not combined with gramophone

developing ECOCEAN members. At first the analysis was based on 369 commodities which were exported from Pacific Asian developing countries to developed countries in 1970. These 369 commodities included all products exported to developed countries from any country in the region in amounts over \$100,000 based on four-digit SITC/R numbers (Standard International Trade

Table 2.3: Classification of commodities¹ by coefficient of specialisation and relative importance in world trade

COEFFICIENT OF SPECIALIZATION	50	75	100	125	150
Quadrant 2			687.1 5.11 [4]		
			+054.8 1.14 [5]		
			657.8 0.08 [4]		
			*243.3 1.82 [9]		
			*652.1 1.26 [5]		
			*841.2 0.45 [5]		
			+656.9 0.44 [6]		
			P291.1 0.08 [7]		
	231.1 9.46 [7]		081.3 0.53 [5]	*242.3 8.15 [8]	
	292.3 0.14 [7]		+899.2 0.18 [4]	*631.2 2.45 [6]	+899.9 3.40 [6]
Quadrant 1	897.2 0.31 [4]		*053.9 0.58 [7]	*841.3 0.46 [4]	*283.1 2.54 [4]
	061.5 0.37 [5]		+632.8 0.11 [6]	*894.2 1.44 [4]	*851.01 0.68 [4]
	055.4 0.07 [5]		332.4 1.51 [6]	*724.2 1.52 [5]	*053.6 0.39 [6]
	292.4 0.08 [5]		*031.1 0.59 [8]	+012.9 0.03 [4]	+893.0 1.45 [6]
	+211.9 0.05 [6]		054.2 0.16 [6]	*031.3 0.85 [8]	*696.06 0.14 [4]
	B074.1 0.40 [5]		*631.1 0.11 [4]	*032.02 0.14 [5]	P667.3 0.84 [6]
	*652.2 0.54 [7]		841.5 0.07 [4]	221.8 0.23 [6]	*284.02 0.31 [7]
	B121.0 0.82 [5]		075.1 0.42 [4]	+292.9 0.14 [8]	*851.02 0.61 [5]
	292.2 0.05 [5]		551.1 0.12 [5]	+899.5 0.07 [4]	*729.1 0.11 [4]
	100	100	100	100	100
Quadrant 3	667.1 0.02 [4]		332.1 0.27 [5]	897.1 0.11 [5]	284.01 0.04 [4]
	283.6 0.06 [5]		291.9 0.27 [9]	281.3 1.00 [5]	221.1 0.04 [4]
	655.6 0.04 [4]		599.5 0.08 [4]	724.9 0.30 [6]	892.9 0.03 [4]
	071.1 0.96 [4]		122.1 0.06 [4]	284.4 0.02 [5]	722.2 0.09 [4]
	242.1 0.06 [4]		282.0 0.11 [7]	892.1 0.12 [7]	*821.0 0.21 [4]
	032.01 0.02 [4]		711.4 0.04 [5]		285.2 0.02 [4]
					896.06 0.04 [4]
Quadrant 4					891.1 0.06 [4]
	50	75	100	125	150

Relative IMPORTANCE IN WORLD TRADE in terms of rate of change in developed world's imports

Notes: Commodities are represented by four-digit SITC/R numbers, set in bold type. *Murakami's "strategic exportables". +eliminated due to vague wording. P=eliminated because of nature of the commodity (i.e. precious gems). B=included in present study but excluded from Murakami study. Figures in *italics* show relative importance of the commodity in total regional export in 1970. Figures in square brackets [·] show number of countries exporting of exporting.

Classification/Revised). The export values by country were derived for each commodity from import statistics of the developed countries contained in the *Supplement to the World Trade Annual, 1971, Vol. V* (Far East and Southeast Asia). Commodities which were exported by fewer than four countries in the region were eliminated, partly as a guarantee that any chosen commodity would be exported by at least one country in Southeast Asia. Thus commodities exported only from the East Asian nations (Taiwan, Korea and Hong Kong) were excluded from the survey. Consequently, the list of commodities of common interest was narrowed down to 88. The remaining commodities were analyzed on the basis of coefficient of specialization (*vis-à-vis* developed countries) and of relative importance in world trade.

One possible measure of revealed comparative advantage can be given by calculating the coefficient of specialization for each commodity based on exports in 1970. The coefficient measures the ratio of the export share of a given commodity in total exports from the 12 developing countries to total world exports of the commodity. However, world export figures by 4-digit SITC commodities are not available. For this reason, imports from developed countries have been used as a similar measure. In almost every case, imports from developed countries account for a very large proportion of total world exports. The coefficient can be expressed by a formula $(\frac{E_i}{E}) / (\frac{M_i}{M}) \times 100$, where E stands for the total value of exports from 12 developing countries to developed countries as a whole in 1970; M for the total value of imports of developed countries from the rest of the world as a 1968-1969 average; and E_i and M_i for the export-value from 12 developing countries and import-value of developed countries respectively for commodity i . Therefore, if the coefficient of specialization of a commodity is over 100 the export composition of developing countries in the region has a bias towards that commodity in comparison with the import composition of developed countries. Thus, developing countries should have a revealed comparative advantage in those commodities whose coefficients of specialization exceed 100. The relative importance of a commodity in world trade over time is represented by the formula $[(\frac{M_t}{M})_{t+d} / (\frac{M_t}{M})_t] \times 100$, where M and M_i are the same as in the coefficient of specialization, while subscript t represents a base year and subscript $t+d$ represents a later year used for comparison. Here t is the average of 1963 and 1964 import values and $t+d$ is the average of 1968 and 1969 import-values. A commodity showing a figure over 100 for this indicator has enhanced its relative share in total imports of developed countries over the five-year period. In other words, demand for that commodity has increased more than proportionately to total import demand from developed countries, and the relative importance of that commodity in world trade is increasing.

Chosen as the most strategic exportables have been those commodities which measure above 100 in both of these indicators. The 88 four-digit SITC commodities have been plotted in Table 2.3, measuring the relative importance in world trade on the horizontal axis and the coefficient of specialization on the vertical axis. From this chart those commodities with the best potential for export from the developing countries of the region have been chosen (Table 2.4). All commodities falling into the first quadrant of the chart have been chosen as strategic exportables except eight which are vaguely worded (i.e., 899.0 other manufactured articles, n.e.s.) and one which is not of interest in the present study (667.3, Precious gems). Thus, 21 commodities have been chosen from the first quadrant. All commodities falling in the third quadrant, showing low values of both indicators, are excluded. In addition, two commodities in the fourth quadrant which rate over 125 in the "relative importance in world trade" measure, but less than 100 in the "specialization" measure have been included. These particular commodities seem to have good potential for future export, although at present they show revealed comparative disadvantage. Finally, seven commodities were selected from the second quadrant because of their close relationship to those from the first quadrant, although these specific commodities were not expanding in relative world trade over the five-year period. The final list of 30 strategic exportables with values of the two indicators is presented in Table 2.4. One more indicator has been added to show the relative importance of each commodity on total regional exports from 12 developing countries. This is calculated from the formula $[(\frac{E_i}{E})_{1970}] \times 100$, where E represents total exports from the developing countries to developed countries in 1970 and E_i represents exports of commodity i from the developing countries to the developed world.

Table 2.4: Some standards for selecting strategic exportables from developing member countries

SITC/R Number		Coefficient of specialisation	Relative importance in regional export	Relative importance in world trade
242.3	Saw logs and veneer logs, non-conifer	1591.8	8.15	109.1
283.1	Ores and concentrates of copper (including copper matte)	1005.9	2.54	178.2
631.2	Plywood (including veneered panels)	852.8	2.45	112.0
243.3	Lumber, sawn, planed, grooved tongued, etc., non-conifer	790.3	1.82	96.0
841.1	Clothing of textile fabric, not knitted or crocheted	731.1	6.20	145.5
652.1	Cotton fabrics, woven, grey (unbleached not mercerized)	711.9	1.26	76.9
851.01	Footwear with soles and uppers of rubber or plastic material	708.3	0.68	204.7
841.4	Clothing and accessories, knitted or crocheted	672.0	5.72	136.7
841.3	Apparel and clothing accessories of leather	596.6	0.46	119.3
894.2	Children's toys, indoor games, etc.	584.9	1.94	123.5
053.6	Fruit, temporarily preserved	576.1	0.39	185.0
831.0	Travel goods, handbags and similar articles	493.4	0.64	130.4
724.2	Radio broadcast receivers, whether or not combined with gramophone	448.2	1.52	117.5
696.06	Spoons, forks and similar tableware	395.5	0.14	156.6
841.2	Clothing accessories of textile fabric, not knitted or crocheted	343.2	0.45	91.2
632.7	Manufactures of wood for domestic or decorative use (excluding furnitures)	328.9	0.15	137.8
729.3	Thermaionic, etc., valves & tubes, photocells, transistor, etc.	323.2	1.54	146.3
031.3	Crustacea and molluscs, fresh, chilled, frozen, salted or dried	308.0	0.85	122.2
053.9	Fruit and nuts, prepared and preserved, N.E.S. (including fruit in airtight container)	285.3	0.56	79.8
032.02	Crustacea and molluscs, prepared or preserved	228.4	0.14	106.0
697.2	Domestic utensil of base metals	197.6	0.20	132.3
652.2	Cotton fabrics, woven, other than grey (bleached, dyed, mercerized, printed or otherwise finished)	168.0	0.54	70.3
031.1	Fish, fresh, chilled or frozen	164.1	0.59	98.5
631.1	Veneer sheets	156.1	0.16	98.0
284.02	Copper waste and scrap	142.0	0.31	174.5
851.02	Footwear with soles of leather, footwear with soles of rubber or plastic material, not included in 851.01	118.3	0.61	179.9
729.1	Batteries, accumulators	110.2	0.11	162.8
894.4	Other sporting goods	105.5	0.13	129.7
653.5	Fabrics, woven, of synthetic fibres	78.5	0.22	150.8
821.0	Furniture	46.6	0.21	174.8

Note: (1) $\left[\frac{Eir}{Er} \right] 1969 / \left[\frac{Mid}{Md} \right] \frac{1968}{1969} \times 100$ (2) $\left[\frac{Eir}{Er} \right] 1969 \times 100$ (3) $\left[\frac{Mid}{Md} \right] \frac{1968}{1969} / \left[\frac{Mid}{Md} \right] \frac{1963}{1964} \times 100$

Where Eir = Exports of 1 commodity from the developing member countries to the developed world, Er = Total exports from the developing member countries to the developed world; Mid = Import of 1

Table 2.5: Final list of strategic exportables

SITC/R	
031.1	Fish, crustacea and molluscs (including prawn and lobster), fresh, chilled
031.3	frozen, prepared and preserved.
032.02	
053.6	Fruit and vegetables, prepared or preserved (including those in
053.9	airtight containers).
055.5	
061.1	Raw and refined beet and cane sugar and other products of refining beet and
061.2	cane sugar.
074.1	Tea
121.0	Tobacco, unmanufactured.
283.1	Ores and concentrates of copper and copper waste and scrap.
284.02	
422.2	Vegetable oils, including palm oil and coconut oil.
422.3	
629.1	Rubber tyres and tubes for vehicles and aircraft.
631.2	Plywood and veneer panels.
652.2	Cotton and synthetic fabrics, bleached and dyed,
653.5	other than grey.
661.2	Cement.
673.21	Iron and steel bars and rods and hollow mining drill:
696.06	Spoons, forks and similar table ware.
724.1	Radio and TV broadcast receivers, with or without
724.2	gramophone.
821.0	Furniture.
831.0	Travel goods, handbags and similar articles.
841.1-4	Clothing of textile fabric, knitted and crocheted and women's not knitted or
	crocheted.
851.01-04	Footwear with soles of leather, rubber or plastic.

It is interesting to note that 21 of the 30 commodities identified by this method are closely related to those we had chosen from the original lists submitted from each country to ECOSEN. These 21 commodities will be retained for further study by Dr Murakami as well as treated in the present study. This study will retain another seven commodities which, although not identified as strategic exportables, have been shown by the more recent data we have gathered to have good potential. Five of the seven commodities were eliminated from the start by Murakami because they were exported to developed countries by fewer than four developing countries. We have retained them because they were exported by at least three of the ECOSEN member countries in 1971, although exports in some cases were directed to other developing countries. The five commodities are: Raw and refined beet and cane sugar; Vegetable oils; Rubber tyres and tubes; Iron and steel bars and rods; and Cement. We have also retained Tea and Tobacco, because they are both exported by five countries. Moreover, they were both requested for promotion by ECOSEN members, and both have a rating of over 100 in comparative advantage. Although these last two commodities show a low rating in "relative importance in world trade", we felt it was legitimate to retain them because of their other positive aspects. Finally, out of the nine remaining strategic exportables which were unrelated to those submitted by ECOSEN members, we have added three which we felt could be included in the present analysis; i.e: Spoons, forks and similar tableware; Footwear with soles of leather, rubber or plastic; and Travel goods, handbags and similar articles. Of course all of the strategic exportables are worthy of further analysis, but time constraints and difficulties of obtaining data limited us to these three. All in all, the list of strategic exportables includes only four commodities which are completely unrelated to our final selection. The final list of 18 commodities which will be considered in this study is presented in Table 2.5. The absolute values of exports, growth rates, and import growth for the 18 commodities for five exporting countries (Taiwan, Korea, Thailand, Malaysia and the Philippines) are shown in Table 2.6.

Table 2.6: Recent performance of 18 strategic exportables from five countries

	Ei ² ₁₉₆₉	Ei ₁₉₇₀	Ei ₁₉₇₁	Growth Ei ₇₀ /Ei ₆₉	Growth Ei ₇₁ /Ei ₇₀	Ei ³ /E ¹
Crustacea and molluscs, frozen	36,539	52,474	74,135	.44	.41	.011
Canned goods	129,709	154,424	166,367	.19	.08	.025
Sugar	197,980	239,234	299,031	.21	.25	.045
Tea	11,508	14,391	15,383	.24	.07	.002
Tobacco	37,945	38,940	42,592	.03	.09	.006
Copper ores	137,700	192,341	189,546	.40	-.01	.028
Vegetable oils	100,568	181,955	227,765	.81	.25	.034
Rubber tyres	6,458	8,415	14,576	.30	.73	.002
Plywood	184,850	215,570	267,154	.17	.24	.040
Cotton and synthetic fabrics	62,751	76,802	116,455	.22	.52	.017
Cement	17,905	25,997	41,098	.45	.58	.006
Iron & steel bars & rods	9,347	26,138	26,113	1.80	-.001	.004
Tableware	5,338	10,006	10,810	.87	.08	.001
TV and radio receivers	31,523	76,151	144,029	1.42	.89	.022
Furniture	2,295	4,031	9,328	.76	1.31	.001
Travel goods	6,468	12,237	23,329	.89	.91	.003
Outer garments, knit and women's cotton	160,770	212,663	312,047	.32	.47	.047
Footwear ¹	39,380	69,228	134,151	.76	.94	.020
Total export of 18 commodities (a)	1,179,106	1,610,997	2,113,899			
Total export from five countries (b)	4,862,137	5,722,320	6,669,450			
18 Exports to total exports (a/b)	.2425	.2815	.3170			

	Mi:J ⁴ ₁₉₆₉	Mi:J ₁₉₇₀	Mi:J ₁₉₇₁	Growth Mi 70/ Mi 69	Growth Mi 71/ Mi 70
Crustacea and molluscs	121,850	137,533	218,311	.59	.13
Canned goods	41,353	41,775	49,027	.17	.01
Sugar	197,663	183,713	330,738	.17	.44
Tea	12,252	17,544	19,866	.13	.43
Tobacco	66,358	65,513	95,356	.46	-.01
Copper ores	341,283	484,233	464,869	-.04	.42
Vegetable oils	7,166	10,602	10,725	.01	.48
Rubber tyres	1,819	2,119	2,388	.13	.16
Plywood	5,911	30,127	7,839	-.74	4.10
Cotton and synthetic fabrics	18,894	36,013	46,421	.29	.91
Cement	563	861	994	.15	.53
Iron & steel bars & rods	147	1,783	498	-.72	11.13
Tableware	188	267	213	-.20	.42
Radio and TV receivers	977	2,041	1,539	-.25	1.09
Furniture	1,416	2,508	2,824	.13	.77
Travel goods	4,808	6,188	5,910	-.04	.29
Women's outer garments, cotton & knit	27,254	57,855	60,224	.04	1.12
Footwear ¹	4,787	8,020	13,778	.72	.68

Table 2.6 continued

	Ei-Mi ⁵ / 1969	Ei-Mi 1970	Ei-Mi 1971	Countries exporting ⁶	SITC/R
Crustacea and molluscs	33,595	49,876	71,537	MTCKP	031.3
Canned goods	126,036	151,992	159,133	CPMKT	053.9
Sugar	151,799	179,889	233,158	PCTKM	061.1-2
Tea	7,462	11,165	12,477	MCK	074.1
Tobacco	-8,244	-6,717	-11,594	PKTCM	121.0
Copper ores	132,245	186,930	186,475	PC	283.1
Vegetable oils	98,462	179,657	225,338	PM	422.2-3
Rubber tyres	-9,910	-825	7,205	CMKT	629.1
Plywood	183,432	213,981	266,522	KCPMT	631.2
					652.2
Cotton and synthetic fabrics	-39,935	-52,840	-14,458	KCTM	653.5
Cement	15,328	24,299	39,023	CKPTM	661.2
Iron & steel bars & rods	-16,269	-2,255	8,418	MCK	673.21
Tableware	4,343	8,985	10,265	CKT	696.06
Radio and TV receivers	-198	42,875	177,065	CKMT	724.1-2
Furniture	414	1,842	7,896	CMKP	821.0
Travel goods	5,060	10,525	22,976	CKP	831.0
Women's outer garments, cotton & knit	153,739	207,037	308,526	CKTM	841.1-4
Footwear ¹	37,823	67,570	133,169	CKP	851.01-04

Notes: ¹ Does not include Malaysia. ² Ei = Export of commodity i from five countries: Taiwan (C), Korea (K), Thailand (T), Philippines (P), Malaysia (M). ³ E = Total merchandise exports from five countries.

⁴ Mi,J = Imports of commodity i into Japan. ⁵ Ei - Mi = Balance of trade in commodity i for five developing countries. ⁶ Countries exporting: Any country with exports of commodity i in excess of \$100,000 in 1971 is considered an exporter.

Processed primary commodities

The commodities which are included under SITC categories 0, 1 and 2 are generally primary products which may be either in raw or processed form. Most of these products undergo elementary processing but their nature as raw materials has not changed. Of our commodities, the most elementary processing is accorded to tea and tobacco, which are dried and fermented in the country of origin. These two commodities have to be sent to the foreign markets for processing, since they are generally blended with other varieties before they are packed as finished products. Cane sugar milling, on the other hand, is always located near cane-growing areas for transportation reasons associated with both loss of weight and deterioration of the sugar content of cane after cutting. Thus, the major portion of value-added takes place in the country of origin, although final processing is often carried out in the importing country. Ores and concentrates of copper undergo a simple floatation process, but still must go through the capital-intensive processes of smelting and refining. Only two of the commodities in this category can be exported in final form ready for consumption: frozen sea-foods and canned goods. For these products, a large portion of value added is contributed by the raw materials (fish, fruits and vegetables), but processing and packaging are also important essential components of the export product.

Overall export growth rates of these six primary commodities from developing ECOSEN member-countries have been satisfactory in recent years, but not as spectacular as export growth of goods in other manufacturing-categories. For example, growth in export value of the six commodities reached 27.2 percent in 1970 over 1969 and 13.4 percent in 1971 over 1970. It is interesting to note that exports of the primary commodities are not confined to the agricultural nations of Southeast Asia, but originate also in East Asia. Taiwan especially has depended heavily on exports of tea and sugar in the past, and still depends heavily on exports of canned goods. However, Taiwan and Korea have been following world trends which show that (with certain exceptions), as a country develops, it turns to exports of products with higher manufacturing value-added. Southeast Asia has begun to follow this trend, showing rapidly growing and promising manufactured exports, but the total value of such exports is still very small. It is certain that these countries will have to continue relying on processed and semi-processed primary products as their export mainstay. In order to continue the process of development, which entails imports of capital goods, the primary sectors in these countries cannot be neglected as a source of exports. We found, in many cases, that exports of primary products from Thailand, Malaysia and the Philippines were limited, not by demand or tariff constraints, but by inadequate supply resulting from disorganized or neglected primary sectors. Full benefits from a country's resources can be realized only from reorganization and rehabilitation of neglected sectors. The following industrial profiles of six primary commodities aim to describe the present supply situation from the producers' point of view, and to examine briefly demand prospects for each commodity.

Frozen seafoods

One of the most lucrative export ventures in Southeast and East Asia, because of the worldwide excess of demand over supply, is frozen seafood, especially shrimp, prawn and lobster. Most of the businessmen involved in this industry feel that frozen food is the *vanguard of the future*. As incomes rise (as in Japan), an increasing proportion of people are interested in buying "convenience" foods, rather than fresh foods which may spoil. Frozen foods retain flavour and freshness much better than canned foods, and world demand for frozen foods is growing much more rapidly than that for canned foods. While the market potential is vast, supply presents a major constraint to export, as discussed below.

The Japanese market

Japan's imports of frozen shellfish in the early 1970's have been increasing at unprecedented rates. In 1971 imports reached \$218 million, a 59 percent increase over 1970. Since Japan is by far the largest importer in the region, most of the exporting countries try to cater to Japanese tastes. Moreover, the Japanese market is considered to be the easiest and most profitable market to capture for Southeast Asia. For example, Nichiro Gyogyo Kaisha, Ltd., one of the three largest seafood processors in Japan, is the sole importer of seafood products for certain firms in Southeast Asia. This company imports mainly shrimp, lobster and abalone from Taiwan, Thailand, Mainland China, Malaysia, Sri Lanka, and Australia. Each seafood importer receives an import quota for certain types of seafood which it in turn allocates among the various exporting countries. Singapore was just placed on the list of eligible exporters in September 1972. Although imports from Southeast Asia have been increasing rapidly and steadily, Japan is still concerned with the problem of inadequate sanitary conditions in Southeast Asia. Because of this, it prefers to import seafoods in block-ice form, with final processing from consumers carried out in Japan. Perhaps if the sanitation problem were overcome, the Japanese would be willing to import in the finished consumer package.

Exporters

The major types of seafood which are exported in frozen form are shellfish and deep sea fish. In the shellfish category, the major exporters of shrimps and prawns in the region are Thailand, Malaysia, Taiwan and Australia. In addition, Vietnam is increasingly gaining a portion of the market, and Singapore and the Philippines are exporting small amounts of prawn. One of the major exporters of shrimp in the world and the major competitor for the US market is Mexico. Scallops and abalone are exported only by Australia, while oysters are exported by Korea and New Zealand. Rock lobster tails have provided a very lucrative export product for Australia and New Zealand. A large proportion of these products are exported in finished consumer packages, mainly to Japan and the US. Deep sea fish includes tuna, abacore, and Alaskan pollack, which are mainly exported in large blocks of ice to large canneries in Japan or the US. The major exporters of these deep sea fish are Korea and the Philippines.

Thailand.— Although a great deal of Thailand's annual fish catch is still brought in by traditional means, the introduction of more modern equipment and techniques and the expansion of the fishing fleet to include modern deep-sea trawlers in 1960 have resulted in a seven-fold increase of fish landed in the last decade. Before 1960, deep-sea trawlers were not allowed in Thailand at all. Thailand experienced a record catch in 1970 amounting to 1,496,000 tons, of which 91 percent were marine fish. The total catch increased to 1,606,000 tons in 1971, of which 1,470,000 tons were marine seafoods. Fisheries in 1971 accounted for 3.4 percent of Thailand's GNP, and this has proved to be one of the fastest growing sectors in the country, averaging 20.5 percent annual growth from 1967-71. At least 50 percent of the output of Thailand's 208 ice plants is used by the fishing industry. [T1, p. 6] The fastest growing branch of the fishing industry is shrimping. Thai shrimps find ready markets abroad and they have become one of Thailand's main earners of foreign exchange. Shrimp became a large export earner in 1963 when exports amounted to over \$(US) 2 million. The export value of this commodity then grew at an average annual rate of 46 percent per year from 1963 to 1968. Exports declined slightly in 1969 and 1970 because of lower export prices and a smaller quantity of shrimp available for export. However exports of shrimp alone are on the increase again and reached a record total of over \$16 million in 1972.

The largest and most modern cold storage plant in Thailand is Thai Seree Cold Storage, which is less than 10 years old, although the owner family has been in the fishing business for over 40 years. The company has its own trawlers, fishery plants, ice factories, shipping yards and 4 fishmeal factories. In 1972 this company alone exported \$10.6 million worth of frozen seafood, mainly shrimp, to Japan and the US. This rates the company as one of the most successful cold storage plants in the Asian and Pacific region. Thai Seree has the capacity to freeze 25 tons of shrimp per day during peak season and about 56 tons of fish per day. Almost 100 percent of production is exported. One problem this company faces is that Thai shrimps have a reputation for

inferior quality, due to a lack of modern facilities and fishing trawlers in the country. One of the major inadequacies is ice, both in quality and quantity. At present the government is trying to encourage the improvement of ice facilities in Southern Thailand. However, Thailand's shrimp still fetches a lower price in the world market than countries which have maintained high quality standards. Other manufacturers have viewed the success of Thai Seree and have entered the frozen seafood export business in Thailand; some of which are Thai-Japanese joint ventures. One such company has a production capacity of 400 metric tons per year and exports 100 percent of its production to Japan. However, it faces heavy local competition for raw material supplies and heavy international competition from India and Australia and, in the near future, from Vietnam. Such competition is inevitable since Thailand's prices are somewhat high due to local competition for limited raw materials.

Shrimps are becoming scarce in coastal waters and now account for only 10 percent of the marine catch. Realizing the importance of shrimp to the national economy, the government is emphasizing shrimp farming in its Third Five-Year Plan (1972-76). Despite this encouragement, shrimp farms contributed only 3,000 tons to total production by the end of 1971. The Department of Fisheries and the National Economic and Social Department Board are now making a determined effort to promote the production of shrimp for export. In 1972 a joint \$1.5 million project was set up with UN assistance to expand the area and increase the yields of shrimp farms. As part of its aid to Thailand, the Japanese government has undertaken to finance the scheme, which will be carried out by the UN Food and Agricultural Organization in co-operation with the Department of Fisheries. However, the manager of Thai Seree states that shrimp farming is still on a pilot scale, and has not yet become scientific. He urges further promotion of such schemes and more assistance to the deep sea fishing industry.

Malaysia and Singapore.—There are several companies in Malaysia and Singapore which have been set up to export frozen seafoods within the last few years. The Malaysian pioneer was Malayan Frozen Foods which was set up in 1962 to export frozen shrimp. This company is able to produce first quality shrimp for export to Japan, the US and Europe, and therefore buyers are willing to pay 5 to 10 percent more for its product. The company has a storage capacity of 500 tons, and a freezing capacity of 20 tons per day. Although this is almost as large as Thai Seree, total exports in 1971 amounted to only \$2 million. Other family businesses well-established in related products are entering into the frozen seafood business. For example, Folin & Brothers went from the refrigeration and air conditioning business into frozen food and seafood in 1969. By 1971 they exported frozen shrimps and prawns worth \$1.1 million. This company has cold storage capacity of 1,200 metric tons, but is presently freezing only one metric ton per day. Butterworth Ice Works has a storage capacity of 2,000 tons of which 300-400 tons are for prawns. This company exported approximately 100 tons per month of prawns to Europe in 1972. In January 1973 exports reached 250 tons. The manager says that Japan will no longer buy Malaysian shrimps and that companies who used to export 100 percent of their production to Japan have closed. Japan has been switching to imports from Mainland China, where the shrimp are bigger and the price is lower. These three companies complain that although a shortage of shrimp from the fishermen is not yet apparent, the size of prawns is getting smaller each year. The problem is the availability of the right raw materials for each market. Demand and price are very high for the largest size prawns, and these are becoming more and more scarce. According to the manager of one firm, this situation is due to the lack of modern equipment and ships in the fishing industry, which is essentially composed of 6,000 fishermen with small boats who catch 30 pounds of fish each per day. His firm is interested in starting a consortium with a US group who will supply more sophisticated equipment and modern ships capable of fishing at 600 fathoms deep. The manager feels that there are shrimps and prawns available if someone can just get them out.

The Malaysian government is making some efforts to promote shrimp cultivation, and one government agency will invest \$1.3 million for experiments in 1,800 acres of sea bed. The main problem with cultivation is the high bacterial content found in cultivated shrimps which are reared close to shore. This is especially a problem when trying to keep the embryos alive. In Malaysia these initial efforts at cultivation will be used mainly for local consumption. The Government has also formed a Fish Marketing Board which should have some control on all levels of production

up to wholesaling and processing. However, one businessman feels that the officials of the Board are not very familiar with fishing and that the lack of communication between business and government impedes the success of such an agency.

In Singapore, the frozen seafood industry is much more oriented to the domestic market than in Malaysia and Thailand. Most of the seafoods for freezing come from Indonesia and cannot be obtained "domestically". Unlike Thailand and Malaysia, the domestic price for foods such as shrimp is much higher than the export price, inducing producers to concentrate on the domestic market. In addition wages are rising in Singapore and people are turning to frozen foods for convenience. One firm in Singapore is exporting frozen lobster to Europe and Japan, although it has stopped exporting shrimp due to high domestic prices. The manager sees a good future market for frozen foods in Singapore, but says that rising production costs are making local processing too expensive. Many frozen seafood exporters in Singapore have closed in recent years due to excessive costs and heavy competition in Southeast Asia.

South Vietnam.— The industry is just getting started in Vietnam due to the rich seafood resources off-shore and the heavy investment of the Japanese in recent years. Exports of shrimp from Vietnam increased by over 10 times in 1972 over 1971, and there are presently 11 companies exporting shrimps. The three Vietnamese companies interviewed are all receiving technical assistance from Japanese firms although only one of them is actually a joint-venture with the Japanese. Most of the firms involved in this industry have been opened within the last few years, and all are competing for the same supply of shrimp which used to be adequate for the domestic market. In addition to the increased local competition for raw materials, the Vietnamese claim that Thai fishermen are buying up much of their catch. Originally, Thais were given special permission to buy shrimp and to come to fish. However, the Vietnamese freezers objected to this practice, and permission was withdrawn. However, Thais are still often found in Vietnamese fishing waters.

The Mekhong Seafood Co., a joint-venture with Japan, has devised an innovative way to fish and process the catch for exports. The firm has two refrigerated trawlers which go out for 30 to 40 day trips. Each boat is manned by 14 people — 4 Japanese and 10 Vietnamese — who carry out every aspect of production while on the ship. They do the fishing, the processing (consisting of cutting off the heads, grading, and cleaning) and the packing all aboard-ship. The packs ready for export are kept in the refrigerated hold until the boat returns to port. This innovation has great possibilities since there would be minimal spoilage when the shrimps are processed as soon as caught. This firm has been opened only one year but it is probable that it will be able to expand rapidly if quality is good. The pioneer firm in the industry was established in 1965 and exported \$3.1 million worth of frozen shrimp in 1972, of which 80 percent went to Japan and the rest to the US, Germany and Hong Kong. This firm has the capacity to export 150 metric tons of frozen seafood per month, if it could obtain enough raw materials. The manager feels that the government should assist the industry by providing facilities for research and by protecting the local industry from foreigners who buy a large portion of the domestic-catch. Another firm in Vietnam says that the quality of their shrimp is very high and that Vietnamese frozen seafoods are very price competitive with India, Indonesia, and Thailand. Companies in Vietnam receive an exchange rate concession of about 20 percent which keeps their prices low and profits quite high. The industry has good potential in Vietnam if the raw material supply can be rationalized. The government is now assisting exporters by encouraging shrimp farming at Vung Tau in the South China Sea.

Taiwan.— Fisheries have been forging ahead at the fastest pace among various agricultural sectors in recent years. Total production in 1970 was 613,000 metric tons, compared to only 121,700 tons in 1952. The reason for such an increase lies in the dieselization of fishing vessels and the improvement in fishing methods and facilities. Deep sea fishing fleets have been enlarged and are operating in waters from the Indian Ocean to the Atlantic. All deep sea fishing vessels above the 120-ton class are equipped with freezing facilities. [C1, p. 213] With the implementation of Taiwan's Five-Year Program for the Acceleration of Fisheries Development beginning in 1968, annual production was expected to reach 800,000 metric tons in 1972. Exports of fisheries products have shown a steady increase during the past few years, reaching \$68.1 million in 1970 and \$79

million in 1971. Most of Taiwan's exports are destined for Japan, which is the easiest and most profitable market to supply. The annual growth rate in production has been highest in fish cultivation, which approached 72,700 metric tons in 1970. Taiwan's exports of frozen shrimps and lobster are less than those of Malaysia and Thailand in value terms. This is partly due to the fact that they export mainly small-sized shrimp rather than large prawns. Most exporters buy from certain fishermen who own their own freezing machines and who always supply the same firms. Of the 33 frozen food firms which are approved by the government, only about 8 to 10 produce shrimp. This is due to the limited quantity of the product and the high domestic price. On average, for every ton of shrimp a company buys from fishermen, only 380 kilograms can be used for export. Since there are many new firms competing for limited supplies, raw material prices have been rising. Manufacturers are asking for government assistance to shrimp farmers and fishermen.

The Philippines.— The fisheries sector in the Philippines currently accounts for about 4 percent of GNP, with output in 1970 reaching over 1 million metric tons, 90 percent of which arose from marine operations. The commercial fishing fleet consists almost entirely of individually-owned vessels or vessels owned by closed family corporations. To increase the rate of growth of output, greater attention should be paid to training fishermen and to improving ice and cold storage facilities. Although there are a number of small shrimp freezers, the cold storage business is not as organized or well-developed as in Thailand and Malaysia. Previously investment in cold storage facilities was inhibited by an old public service law regulating the ice industry, under which a franchise had to be obtained from the local government. This law has recently been changed, however, under Presidential Decree No. 43, which allows any person or co-operative to establish ice making and cold storage facilities without such a franchise. This should improve the cold storage industry considerably. The Philippines exported only \$1.3 million worth of frozen crustaceans and molluscs in 1970, but this was increased to \$3.2 million in 1971. The relatively low level of exports results from a lack of shrimp vessels and the difficulty of catching shrimp in Philippine waters. According to one exporter, the islands have a continental shelf much more narrow than that in Thailand and Malaysia, and that is where the shrimp are generally found. Although the future of shrimp derived from trawling may be somewhat limited, cultivated shrimp may have some promise. The same exporter of small amounts of shrimp says that tuna is a much better export for the Philippines, more suited to the fishing grounds available. Most exports of tuna are directed to the US and Canada although Japan is providing an expanding market, as well as Europe and Australasia. Del Monte Canning of the Philippines has invested in some refrigerated ships for tuna fishing. The tuna are exported whole in ice blocks to their tuna cannery in Puerto Rico. The manager of one of the largest cold storage firms in the Philippines feels that frozen foods is the wave of the future in his country. He says that as Filipino women have to cook more and more for themselves, they will turn increasingly to frozen foods, which have a better flavour than canned goods. He feels that domestic demand will be very high within 2 to 3 years. Thus, although exports of frozen seafoods are not very significant at present, the industry has good potential, and is expanding rapidly.

South Korea.— The Korean government in 1972 put stress on the expansion of fishing facilities, in developing fish cultivation (mainly shellfish) as well as deep-sea fishing. The 1972 fisheries production target was set at 1,530,000 metric tons, a 32 percent increase over the catch of 1971. The export target for fishery products was set at \$189 million for 1972, a 45 percent increase over the previous year. Of this total, a target of \$13 million was expected from frozen seafoods, [K3, No. 2, 1973]. Frozen seafoods include shellfish such as oyster, cuttlefish and shrimp in finished package form and deep-sea fish such as tuna, abacore and fish fillet in block-ice form. The Korean Oyster Export Company received letters of credit worth \$5.5 million for oysters in early 1973. The LCs add up to \$3.2 million for canned and \$2.3 million for frozen oysters, both for the US and Japan. The company plans to sell \$13 million worth of canned and frozen oysters in 1973, allocating supply quotas to each of 15 affiliated members. In 1972 total exports of frozen oysters amounted to only \$900,000 (9,500 metric tons), all of which were exported to Japan. However, with the signing of the US-Korea Shellfish Sanitation Agreement in 1972, the US has begun to import frozen oysters in 1973. Because of such new markets export projections for frozen oysters in 1976 amount to 83,700 metric tons worth \$9.8 million. Although very little

frozen shrimp had been exported from Korea through 1972, the Oriental Brewery Company's fishery department recently developed a man-made shrimp fodder, which will increase attention given to shrimp farming and marketing. The firm exported 21 tons of shrimp raised on fodder to Japan in 1972, and expects to increase exports considerably in 1973. However, there is still a great shortage of shrimp for export, and thus many cold storage firms are concentrating on cuttlefish. Over 85 percent of the exports of cuttlefish are destined for Japan and Southeast Asia, which provide adequate demand for this readily obtainable shellfish.

Tuna is the chief fish caught by Korea's deep-sea fishermen, and in 1971 exports of tuna totalled \$66 million, both in canned and block ice forms. However, with the worldwide catch of tuna increasing sharply in recent years, the oceans of the world are being rapidly drained of tuna resources to the extent of requiring a worldwide control of tuna fishing in order to preserve the resources. Now many fishermen are turning to abacore because of dwindling resources of tuna and the close substitutability between the two species. One of the cold storage companies interviewed, a joint venture with Tri-Marine of Singapore and some American partners, has an export target of \$6 million for 1973. This firm finds an increasing demand for abacore in both the US and Japan, and has been increasing its exports in that commodity in both fresh and frozen forms. Other cold storage firms which usually export deep-sea fish are turning to fish fillet, especially for export to the US, where demand for fillets of Pacific fish, including Alaskan pollack, is on the increase. The fillet is a compact piece of boneless fish which is generally frozen in block form for export. Because of the cold climate in Korea and the nature of the North Pacific waters, deep-sea fish seems to have more export potential for Korea than shellfish other than oyster. While shellfish will provide Southeast Asian countries with increasing exports, it is probable that increases in frozen seafoods from Korea would be in deep-sea fish products.

Australia and New Zealand are major producers of shellfish, mainly rock lobster, prawn and abalone. Rock lobsters, prawns and scallops are generally frozen for export, while abalones are canned. The rock lobsters which are fished in Southern Australian waters provide the most valuable fisheries product in the area. The boats used are mainly small vessels which have either insulated holds and carry ice or are equipped with dry or brine refrigeration. Some rock lobster vessels are fitted with wells in which the catch is kept alive. With the development of exports of frozen rock lobster tails to the US, the catch of rock lobster increased greatly in both Australia and New Zealand up until 1969. Exports of the commodity reached a peak in 1969 for New Zealand (almost \$US 16 million) and Australia (over \$25 million). Australia's exports jumped significantly in the 1971-72 season (July through June) and exports reached a new high of \$40 million. The boom period has now passed for New Zealand, however, and exports of rock lobster have been on the decline. The aim now is to insure that this valuable fishery stabilizes to provide regular supplies for overseas. Rock lobster tails are exported almost entirely to the US and Canada, although small amounts have been sent to Japan. [A 1, p. 879 f.f.].

In addition to rock lobster, Australia has been turning to abalone and prawn, while New Zealand has been increasing its production of "wet fish" such as eel and rock oyster. In Australia, prawn are taken in the coastal and offshore waters of all states except Tasmania. This fishery product has grown very rapidly in recent years, especially because of cultivation in North Australia. A number of well-equipped, double-rigged prawn trawlers of 60 to 75 feet have been built for the rapidly developing prawn fisheries. In addition, processing vessels receiving prawn from the fleet are operating in the area and shore-based plants have been established in remote areas of the north to service the expansion of the industry. Over 9,000 m.t. of fresh and frozen prawn were exported in the 1971-72 (July through June) year worth over \$32 million. Exports were mainly directed to Japan, the US, and the UK. Exports of frozen abalone amounted to \$1.4 million in the same period, mostly to Japan, while frozen scallops amounted to \$2.8 million, mainly for the US and French markets. In New Zealand the government has set up four experimental rock oyster farms. In addition, there are 70 private farms in operation and 70 more leases have been granted. Exports of oyster have been directed mainly to the US and Australia, although small amounts have been sent to France and Japan. The prospects for this commodity seem more promising than for rock lobster, due to declining supplies of the latter. [N 1, p. 429-34].

Table 3.1: Exports and imports of frozen crustacea and molluses.¹

	Exports			Imports		
	1969	1970	1971	1969	1970	1971
Australia	38,473	40,837	57,282	1,783	1,566	1,843
Japan	1,605	267	124	121,850	137,533	218,311
New Zealand	17,164	12,804	14,176	—	8	10
Korea	6,734	13,836	14,077	59	99	43
Taiwan	5,683	8,641	14,563	—	3	260
Malaysia	9,672	15,539	25,126	2,438	2,008	2,354
Philippines	576	1,314	3,254	42	23	—
Vietnam	101	27	328	—	—	—
Thailand	13,774	13,144	17,115	405	465	584

¹ Including shrimp and prawn.

Canned goods

The canned goods export industry in the Asia and Pacific region has become somewhat specialized according to sub-region. Japan and Korea specialize in canned seafoods, with Japan concentrating on salmon and tuna, and Korea on oysters. Taiwan is the world's major exporter of mushrooms, asparagus and bamboo shoots, and Korea has begun to enter the mushroom market. Australia has a diversified industry which exports products which are not produced in the other countries, such as pears, peaches, abalone, dairy products and beef. Finally Southeast Asian countries have become the major exporters of pineapple in the world. Aside from the competition over canned pineapple in Taiwan, the Philippines, Thailand and Malaysia, the industry has become essentially complementary, rather than competitive among the countries. While Japan has traditionally dominated a large part of the export market for canned goods, Taiwan, Southeast Asia and Australia have moved into commodities which Japan cannot produce. It is often the case that the producers of one type of canned goods are consumers of another type produced within the region.

Japan

Japan's canning industry was established about 100 years ago, but was almost destroyed during World War II. After the war, a tremendous effort was made to reconstruct the industry, and by 1956 production had reached pre-war levels. Total production of all canned goods in 1971 amounted to 1.09 million tons worth approximately \$(US) 718.5 million. The main products produced were: marine products (mainly mackerel, salmon and tuna), amounting to 37.1 percent of total production; fruits (mainly mandarin oranges, peaches and cherries), accounting for 28.6 percent of production; and vegetables (mainly bamboo shoots, tomatoes and asparagus), 16.2 percent of production. The canning industry in general is very much oriented to the domestic market, which is demanding more convenient foods for the present affluent society. Production of meats, baby food, pet food, and beverages for canning has greatly increased due to increased demand and changes in Japanese dietary habits. Of total production about 37.5 percent (in value terms) was exported in 1971, amounting to \$269 million. Most of Japan's exports (81 percent) were in fisheries products, dominated by salmon, tuna and mackerel. In general, the canned seafoods industry is much more export-oriented than the fruit and vegetable canning industry. Japan exports most of its tuna, oyster and clam to the US, while the major markets for mackerel are Southeast Asia and the Middle East, and for salmon the EEC. The major non-seafood export is mandarin oranges, destined for the EEC and the US.

However, the Canners Association expects a decrease in exports in the future. The industry is presently working itself at only 50 percent of maximum capacity due to two production problems. The first is the shortage of raw materials, partly a result of increasing international restrictions

on the catching of seafoods in international waters. The other is the shortage of labour, a common problem in Japan, and rapidly rising costs of labour. In addition, the revaluation of the yen has made competition with Korea and Taiwan rather stiff. While there is still quite a good international market for Japanese exports of canned seafoods, Japan itself is an excellent market for exports of tropical fruits from Southeast and East Asia. Japan's major imports in 1971 were pineapples (30.3 percent of total canned goods imports in volume terms), bamboo shoots (23.9 percent), tomatoes (10.6 percent), and other fruits and vegetables. Almost no canned seafood was imported. The major suppliers of these products are, in descending order, Taiwan, the US, the Philippines, Australia and China. Japanese import demand for canned pineapple from Taiwan and Southeast Asia may decrease in future, however, due to the expanding industry in Okinawa. Whereas import duties on most canned goods are about 25 percent, the duty on canned pineapple has risen to 55 percent *ad valorem*. This is hurting the exports of Taiwan and Southeast Asia somewhat, although Japanese demand is still larger than what Okinawa's industry can supply. Another unfavourable aspect of the Japanese market is that the canning industry often imports tropical fruits in bulk containers or in frozen form from Southeast Asia. In such a case, the canning is carried out in Japan, and the export from the developing country is of an unprocessed product.

Taiwan

The canned goods export industry in the Asian Pacific region is almost completely dominated by Taiwan, which exported \$119.7 million worth of canned fruits and vegetables in 1971, amounting to 6 percent of total exports. The industry is export-oriented, and 86 percent of total production was exported in 1970. Major products are asparagus, mushrooms and pineapple which alone accounted for 80 percent of total canned goods exports. The Taiwan Pineapple Corporation (TPC) is the largest producer and canner of pineapple, and a large producer of asparagus, mushrooms, bamboo shoots and mandarin oranges. Yearly exports from 1969 to 1971 averaged \$12 million, accounting for almost 100 percent of production. Formerly a government enterprise, the TPC was transferred to private ownership in 1953. Although the company has received technical assistance from US firms such as Libby's, it is 100 percent locally-owned. The major markets for its produce are the US, Germany, Japan, the Middle East, and Australasia. Other large firms in Taiwan follow approximately the same pattern — exporting almost 100 percent of their produce and concentrating on pineapples, mushrooms, asparagus and bamboo shoots. In general they are able to obtain approximately 60 percent of their raw materials from factory-owned plantations and the rest from individual farmers. Of the four large firms interviewed, only TPC is working at full capacity. The other three are producing at only 50 to 75 percent of capacity due partly to a quota imposed on asparagus and mushroom exports by government-organized associations. Such quotas have come into effect to keep the export price reasonable and to prevent a saturation of the market, although producers complain that quotas have been set too low. Since almost all production is exported, such a constraint has a direct effect upon the level of production.

The major markets for pineapple are the US, West Germany and Japan. Although the US (Hawaii) still produces more canned pineapple than Taiwan, the latter outstripped the US in export sales by 1964 and is still the largest supplier of pineapples to the US and West Germany. As for canned asparagus and mushrooms, Taiwan is by far the largest supplier in the world, and completely dominates the export market to the US, the EEC, and Canada. Although the US used to be a large exporter of canned asparagus, Taiwan has far surpassed the US in export volume, due to the high costs of production in the US. Taiwan's domination of the market for these two commodities has induced the government to impose quotas on canners, for the good of the industry at large. The other commodities in which Taiwan holds a good share of the world export market are mandarin oranges, bamboo shoots and water chestnuts. Taiwan has not entered into the market for canned seafood, however, a market which is still largely controlled by Japan. At the same time, Taiwan is beginning to feel strong competition from low-cost producers in Southeast Asia and Africa for fruits and vegetables.

Korea

The Korean canning industry is rather different from Taiwan in that it produces mainly for the domestic market, and its total exports of canned goods (including seafood) in 1971 were still

less than \$10 million. However, the export industry has shown rapid growth in the past few years especially in such commodities as mushrooms and oysters. Mushrooms are the only product for which Korea is in direct competition with Taiwan, and mushrooms accounted for 90 percent of Korea's canned agricultural exports in 1971. Mushrooms have proven to be a good export for Korea, due to the favourable climate for growing and the high demand abroad. Although Korea marketed only \$8,000 worth of mushroom exports in 1964; the figure had reached \$3.1 million in 1970, and over \$5.5 million in 1971. The main export markets for Korea's mushrooms are West Germany, the US, the Netherlands and Switzerland. The worldwide demand for mushrooms is estimated at about \$80 million per year, and it has been accelerating at a rapid annual growth rate. Thus, Korean canners will continue to concentrate on the expansion of mushroom cultivation and the improvement in yields, especially since the international price of mushrooms has remained high. Until May 4, 1971, exports of mushrooms were exclusively handled by the Agricultural and Fishery Development Corporation (AFDC) in order to control such illicit export practices as price-dumping. Since that time another export "window" has been established — the Federation of Agricultural Cooperatives. These two agencies are the sole recipients for letters of credit, which they assign to packers endorsed by the Korea Canned Foodstuffs Exporters Association. The packers can export directly up to the amount of the L/C with prior approval from the Ministry of Agriculture and Forestry. As in Taiwan, it is felt that exports should be somewhat controlled to prevent dumping in the international market. [K3, No. 22, 1971, pp. 34-9]. The export prospects for canned fruits, especially peaches, are deemed very promising, since small amounts of Korean exports have been well-received in foreign markets. However, domestic production is still lower than domestic demand and production costs are very high. Therefore, the export prospects of products other than mushrooms are still unknown.

In addition to the canned mushroom industry, Korea has created a large and constantly expanding canned seafoods industry, with exports totalling \$5.5 million in 1972, of which 93 percent was earned from canned oysters. As late as 1969, the oyster industry had hardly been developed and mackerel pike accounted for 70 percent of canned seafoods exports which totalled \$2.1 million. While the supply of mackerel has been declining and the domestic price increasing, the cultivation of oysters has expanded tremendously. Although Korea had exported oysters since 1960, and exports had averaged about \$100,000 per annum from 1960-70, such exports did not become significant until 1971 when export value increased by 10 times to \$1.4 million. Exports in 1972 reached \$5.1 million, destined mainly for the US, Canada, Australia and West Germany. This tremendous increase is due entirely to the expansion in cultured oyster, which has been encouraged by the government since 1966. The oyster harvest grew from 42,000 m.t. in 1970 to 81,000 m.t. in 1971 and 111,000 m.t. in 1972. The export prices of canned oyster are on the increase because world demand is increasing while worldwide supply has been decreasing. Since 1969, Korea's export prices have risen at an annual average rate of 29.3 percent for smoked oyster and 18.6 percent for boiled oyster, partly accounting for the tremendous increase in export value over the last few years. Export prices are higher than domestic prices, and it has become easier to export than to sell domestically. In response to the rapid increases in the export of oyster, the Korea Oyster Export Co. was established in 1972 to increase harvests and exports and to improve marketing and quality. The organization is a family of 15 oyster farming and canning firms, which functions mainly for establishing long-term export markets for oyster products. The firm controls prices and improves distribution channels, and also introduces new cultivation and processing techniques. Because the Koreans are starting to cultivate mushrooms and oysters on a large scale for export, raw material supply in these two commodities is not a problem. However, for other products such as fruits and mackerel, prospects are not encouraging due to limited raw materials and high domestic demand. The only outside constraining factor to large increases in canned exports is the import tariffs of consuming countries.

Southeast Asia

The canning industry in the Philippines, Thailand and Malaysia is completely dominated by the production of pineapples. This dependence on one commodity and excessive competition have had the unfortunate result of causing export prices to fall drastically in the past few years. It is advisable for these countries to begin to diversify their canning industries away from dependence on pineapples.

The Philippines.— Although canned pineapple has been one of the 10 major exports of the Philippines since the early 1960's, the export value was not really significant until 1968, when it reached \$18.8 million. This was the first time that the Philippines began to rival Taiwan in exports of pineapple which totalled \$18.9 million in that year. Export value reached its peak in 1970, totalling \$21.4 million despite the fact that the total volume of exports was lower in 1970 than in 1969 and 1971. This was mainly because of high prices resulting from the scarcity of the commodity in 1970. While the volume of exports increased slightly in 1971, the value decreased by 8 percent to \$20 million, due to a price decline of 8 percent. This price decline may have resulted from strong competition which has developed in the region. The canned pineapple industry is completely controlled by large foreign firms such as Dole and Del Monte which export most of their production. The major market is the US, which has consistently absorbed 60 percent of pineapple exports from the Philippines. Del Monte was established in 1939, but did not start production of pineapples on a large scale until after World War II. The firm had previously had a good business in tomatoes and canned corn until a government ruling banned foreigners from growing these two commodities. Del Monte still cans some vegetables and other fruits, but since the war their main production has been of pineapples. Dole Canning set up a plantation in 1966 which began to produce large quantities of pineapples for canning by 1968. At the present time Dole's production is much larger than Del Monte's, due to rapid expansion of the former while the latter stood relatively still. Dole is generally oriented to the US market, while Del Monte sends much of its exports to European and other countries. While Del Monte cans several varieties of products, Dole concentrates totally on pineapples. These firms have been somewhat discouraged by the export tax on canned pineapple, of 6 percent through June 1972, and 4 percent through June 1973. Outside of the large pineapple canneries, the canning industry in the Philippines is primarily locally-owned and oriented to the domestic market. They export small amounts of canned tropical fruits such as mangoes and papaya, but are mainly concerned with Filipinos, who are large consumers of canned goods (especially compared to other Southeast Asian countries).

Malaysia and Singapore.— Exports of canned pineapple from Malaysia and Singapore also have become increasingly important in world markets. Malaysia has consistently been the major supplier of the product to the UK, and one of the major suppliers to the US and the EEC. The largest exporting firm is the United Malayan Pineapple Growers and Cannery Partnership, a Singapore-Malaysia joint-venture. The company was established in 1931 as a source of pineapples for Great Britain. By 1972 its exports were valued at over \$5 million, accounting for over 90 percent of production. Although the company has its own plantations and uses Malaysian pineapples, off-season production is much below capacity since the company produces only pineapple products. The manager notes that since so many (17) countries have entered into the competition in recent years, prices have been falling rapidly and profits from exports have been declining. Another large Singapore-Malaysia joint-venture is Lee Pineapple which was established in 1935 and which exports almost all of its production. The major export markets for both companies are the UK, the US, Canada, West Germany and New Zealand. In addition, Lee Pineapple has begun sending approximately 20 percent of its exports to Japan. Total value of exports of canned fruits and vegetables from Malaysia has been declining in recent years from \$14.4 million in 1969 to \$13.6 million in 1971, partially due to the declining price of canned pineapples. The pineapple export industry is an old one, and must be rehabilitated. However, newer canneries are moving into more diversified products, for which the world markets may be more favourable.

Thailand entered the fruit canning business in 1967 with the establishment of its first major fruit cannery, the Thai Pineapple Canning Co. (TPC), a joint-venture with Taiwan. Now there are seven important export-oriented companies which have been promoted by the Board of Investment, most of which are canning pineapple. These seven companies have a combined maximum capacity of 12.6 million cases per year. This is more than twice the size of Taiwan's yearly production and somewhat less than US production, and would supply one-third of total world demand for pineapples. It is obvious that the firms did not adequately study the supply situation before establishing such ventures and that the industry will not reach capacity production except in the distant future. It must be remembered that pineapple was not grown extensively for export before 1966 and, although the increase in production has been great, the supply of small-sized fresh pineapple needed

by canneries has been totally inadequate. Thai farmers do not like to grow the small-sized pineapples because of difficulties in harvesting the intensively-grown fruits and because of the low price offered by the canneries. Therefore the Thai growers often sell their pineapples to middlemen, who in turn sell to the canneries. The canner must buy all fruit delivered or run the risk of getting no supply at all. The wastage resulting from such a system is described as enormous. When the large new canneries such as TPC and Dole realized this situation, they began to invest in their own plantations. As a result, the supply situation improved considerably in 1973. The factories are trying to regulate year-round production of the fruit, so that the plants can produce at full capacity and costs can be lowered.

Despite the raw material problem, the overall prospects for the export market are quite good. Thailand's exports of canned fruit in 1966 amounted to less than 200 cases, but by 1969 exports approached 600,000 cases, valued at \$2.1 million. Exports registered a sizeable increase of \$1.2 million in 1970, but declined slightly by \$0.5 million in 1971. More than 50 percent of the canned fruits were exported to the US, and in 1969 Thailand became the fifth major source of US imports of canned pineapple. The other major markets for Thai canned fruits are West Germany and Japan. However, direct exports of canned pineapple to Japan have been limited by a relatively low quota on imports from Thailand. At the same time, indirect exports have been achieved by selling canned pineapple at low prices to Taiwan, which in turn exports them to Japan. This is made possible by Taiwan's larger quota and the decision of canners there not to increase production of pineapple. The most diversified cannery in Thailand is Universal Food, which was established with 100 percent local capital as an import-substitution industry. Aside from pineapple, its main products are mangoes, papaya, mushrooms, asparagus, and baby corn. Although the firm exports pineapple and a small amount of baby corn, 80 percent of its production is for the domestic market. While Thai people usually eat fresh fruits and vegetables, there is a growing demand for canned fruits and vegetables out of season. Universal has realized this demand and is catering to it. Since the domestic price for canned goods is quite a bit higher than the export price, Universal exports just to get Thai products known abroad.

Australia

Australia is one of the largest exporters of canned fruits and canned seafood in the region, with exports totalling \$US46.2 million in canned fruits and \$5.9 million in seafoods during 1971. The major products of the canned fruits industry are generally not in competition with other exporters in the region, such as pears (exports totalling \$16.5 million in 1971) and peaches (\$16.1 million in 1971). However, Australia is a moderately large supplier of pineapple to the UK and Canada, with exports reaching \$1.6 million in 1972. The major markets for Australia's canned fruits are the UK, the USA, Canada and Singapore. Although Australia's canned fruits industry is a large and expanding one, it offers little competition to the nations of Southeast Asia, since it produces mainly temperate zone fruits for packing. The situation is much the same in the canned seafoods industry, in which Australia exports mainly abalone (valued at \$5.1 million in 1971), which is not produced in quantity by any of the countries previously discussed. In addition to abalone, Australia exports a small amount of canned tuna and salmon. Major markets for Australia's seafoods are Italy, Mozambique, Hong Kong and Japan. Australia probably has the most diversified canned goods industry in the region, since it also produces large amounts of canned meats, dairy products and fruit juices, which are also exported. These commodities have not yet been exported in quantity by the other countries, including Japan and Taiwan, although there is some production for the local market. Exports of canned beef totalled \$7.7 million in 1971 and were shipped mainly to the UK, New Guinea, Saudi Arabia, and the USA. It is considered that Australia's canning industry is complementary to those in Southeast and East Asia, rather than competitive with them. [A1, p. 785-7].

Sugar

In most Southeast Asian countries, sugar traditionally has been or potentially could be an important export crop and source of foreign exchange. The sugar industry promises to be a rapidly expanding one in future, due to its many domestic and industrial uses, a constantly increasing foreign demand, and the relative ease of growing sugar cane in a tropical climate.

Table 3.2: Exports and imports of canned fruits and vegetables

	Exports			Imports			1969-71, \$(US)'000
	1969	1970	1971	1969	1970	1971	
Australia	43,894	43,612	51,068	4,067	5,403	7,130	
Japan	33,848	36,376	46,229	41,353	41,775	49,027	
New Zealand	2,522	2,773	2,017	1,114	1,342	1,986	
Korea	1,169	2,941	5,947	201	330	581	
Taiwan	94,831	108,193	119,714	131	148	138	
Malaysia	14,384	13,890	13,650	963	574	4,730	
Philippines	17,225 ¹	26,093	24,281	1,442	901	1,625	
Thailand	2,100	3,307	2,775	936	479	160	

¹ Pineapples only.

Uses of sugar

Sugar is consumed both directly in the form of sugar and indirectly in the food processing industries. National income rises when a country develops and it can be assumed that the per capita consumption of sugar will rise accordingly. For example, per capita consumption of sugar in high income countries such as the US and New Zealand has reached 50 kilograms per year, while in Australia the figure is 58 kilograms per year. In low income countries, such as Burma and Cambodia per capita consumption is only 2 to 3 kilograms per year, while in Thailand consumption has been relatively high at 10 kilograms per year. As the poorer countries in the area become more developed, their consumption of sugar will inevitably rise. In addition, there are many industrial uses for sugar. One of the major uses is in the soft drinks industry, where consumption has been increasing tremendously, partly because of increased consumption of soft drinks, and partly because of the US ban on artificial sweeteners. A sharp increase in sugar prices since 1970 has resulted from the US ban on sodium cyclamates, which had been widely used as a substitute for sugar in producing soft drinks. With other industrial countries adopting similar bans, a rapid rise in demand for sugar from the soft drinks industry is bound to continue. Other major industrial uses of sugar are in the condensed milk industry (for which demand in Southeast Asia is very high) the fruit canning industry, and the candy and confectionary industry. [T3, pp. 1-2].

In addition, the by-products of sugar production are becoming increasingly important in various industries. Bagasse, the pulpy portion of the cane, is now used for fuel in sugar mills in Southeast Asia. This may be wasteful, since bagasse has possibilities as a source of pulp for paper, especially since there seems to be a considerable shortage of pulp in Southeast Asia. Also, board made of bagasse has bending strength of 1,500 lb/square inch, strong enough for ceilings and acoustic tiles. The production costs for such goods should be low. Another by-product of sugar production is molasses, which is a source of ethyl alcohol and sodium glutamate (food seasoning), and an export product in its own right. Finally, the filter cake from cane crushing can be used as fertilizer on the cane plantations.

Exporters

The major exporters of sugar in the Pacific Asia region are Australia, the Philippines, Taiwan and Thailand. Indonesia used to be one of the largest exporters of sugar in the world during the Dutch colonial period, but the industry deteriorated considerably with the withdrawal of the Dutch. However, Japan has been investing heavily in the industry recently and Indonesia may become self-sufficient and able to produce an export surplus within the next few years. In Thailand, the Philippines and Taiwan the sugar industry has traditionally been an important source of foreign exchange. During 1952-1965 sugar was Taiwan's largest foreign exchange earner. However, its relative importance began to drop before 1970 as a result of the increasing importance of indus-

trial exports. From an average share of 60 percent of total exports in the early 1950's, it dropped to 41 percent in 1959, 14 percent in 1965, and 3 percent in 1970. Taiwan's exports of raw sugar, amounting to 524,262 tons in 1971, were mainly directed to Japan and Korea, but small amounts of sugar were also exported to Southeast Asia, the US and the Middle East. Taiwan also exports a small quantity of refined sugar (5,254 tons) to developing countries in Asia and Africa. In the Philippines sugar is a traditional commodity, and the Americans have encouraged sugar growing and milling since the early part of this century. Sugar exports became the most important source of foreign exchange for the country during the early 1960's when copra began to decline in importance. However, logs and lumber surpassed both in importance during the mid-1960's. In 1971 the Philippines exported 1,344,677 m.t. of sugar, of which 156,878 m.t. were exported in refined form. One hundred percent of sugar exports from the Philippines are directed to the US under a preferential trade agreement (the US Sugar Act), accounting for approximately 50 percent of the value of total US imports from the Philippines. Mainly as a result of sugar, the US is the most important export market for the Philippines and enables the latter to maintain a favorable balance of trade vis-à-vis the US. In order to increase production sufficiently to supply larger quotas from the US, 14 new sugar mills have been established in the last 3 to 4 years.

In Thailand, there are records of cane growing and sugar milling as early as the 15th century, but the modern sugar industry was introduced into the country approximately 35 years ago. During World War II the industry seems to have deteriorated, however, and by 1953 Thailand had become a large importer of sugar. Unfavorable conditions in the sugar industry caused the government to take steps to reduce imports of sugar by introducing high import tariffs and subsidies to the industry. Consequently, by 1961 the industry had revived to such an extent that Thailand was able to export a small annual surplus to the US for some years thereafter. Moreover by 1969, Thailand's raw sugar surplus of 100,000 m.t. and her desire to gain a share of the Japanese market induced her to join the International Sugar Organization. Unfortunately, Thailand received a quota of only 36,000 tons per year for a five-year period, and by 1971, her surplus had reached 200,000 m.t. Despite the fact that her quota was raised to slightly over 100,000 m.t., Thailand withdrew from the Organization in October 1971 because she felt that she could easily dispose of the sugar surplus on the "free" market. Thailand subsequently did manage to obtain long-term contracts outside the ISO, such as an agreement to supply Malaysia at a rate of 50,000 metric tons per year from 1972-1974. Neither Singapore nor Malaysia is able to produce enough sugar for domestic consumption, much less export, and these two countries will remain good markets for the commodity. Other main markets for Thai sugar are Japan, Vietnam, the US, and Sri Lanka. Thailand's total exports reached 426,808 m.t. in 1972. Thus the Thai government has declared its intentions of making sugar one of the country's principal industries and foreign exchange earners. Thailand is presently making some effort to re-enter the ISO, which has now recognized her as a fast-growing sugar exporter.

Australia is the developed country in the area which is one of the world's major exporters of sugar. Australia's cane growing is restricted to the Northern provinces of Queensland and some parts of New South Wales. The Queensland government is empowered to buy the entire production of those two provinces at a price fixed by the government, which is often higher than the international price of sugar. Then the net proceeds of all sugar sold are pooled and a uniform price is given to all the sugar mills. Exports from Australia are limited by the export quota provisions of the ISO and by special agreements with the US and Britain. Estimates of total demand from domestic and foreign sources are submitted to the mills, and farm production is regulated according to limits imposed on the mill which the farm supplies. In 1972 Australia exported 2,023,260 m.t. of sugar mainly to Japan, the UK, the US, Singapore, Malaysia and other Asian and African States. Some 27,000 tons of the total tonnage were exported in refined form, mainly to the Pacific islands. [A1, p. 774].

Marketing arrangements

Sugar is one of the five commodities for which international commodity agreements exist. Generally, marketing arrangements are handled by governments or by private organizations, or large sugar brokerages granted monopoly privileges. Some of the major marketing agreements include the

International Sugar Agreement, the Commonwealth Sugar Agreement and the US Sugar Act. The International Sugar Agreement (ISA) was established in 1864 with the aim of rationalizing international trade in sugar. Although it was renewed several times over the years, even now the organization is not very effective partly because of its limited membership. Important exporting countries in the Asian and Pacific region who are members are Australia, Taiwan, the Philippines, and Fiji. Importing member countries which are major markets for these exports are Canada, Japan, New Zealand and the UK. The US and the EEC countries, some of the largest importers in the world, are not members of the organization. The agreement was renewed in 1969 for a period of five years. Under the agreement, each of the exporting countries is assigned an annual quota called the "basic export tonnage" which is based on past export performance (average of the last three years' exports). The quota is adjusted each year according to the prevailing world sugar situation. If world sugar consumption exceeds world sugar production in any one year, the agreement allows each country to increase its quota by a given percentage. If world supply exceeds demand, quotas will be reduced by a certain percentage. The ISO determines the market price for sugar quoted in (US) cents a lb by averaging the prevailing cash prices in the central markets of New York and London on a certain day. On that day the importer and exporter can make an agreement for exports of a certain tonnage at the prevailing price. Even if the sugar is delivered three months later, the price on the date of agreement is paid.

In order to assure adequate supplies of sugar to meet quotas many of the governments assign production quotas to each mill. In Australia, this is handled by the Queensland government in conjunction with the Colonial Sugar Refining Company, Ltd. and is based on past performance and estimates of demand. In the Philippines, the Sugar Producers Association assigns to each exporting company a given percentage of production which should be exported, based on past performance. The Producers Association is composed essentially of a small number of families who control the sugar industry and who decide among themselves how much should be exported from each mill. In Taiwan the sugar industry is under the control of the Taiwan Sugar Corporation which is a state-owned enterprise. Sugar cane is obtained from the corporation's own plantations and contract farms, the latter accounting for almost two-thirds of total area planted in 1970. The corporation buys up all production and then exports over 80 percent of the total. Since the domestic price of sugar is much higher than the export price in Taiwan, the proceeds are pooled, and each mill receives a set price per ton. In Thailand, which was a member of the ISO from 1969-71, exports are entirely handled by a private agency in which the government has a share, the Thailand Sugar Corporation. It requires each sugar mill to supply a certain tonnage of raw sugar for export to fulfil foreign orders but does not control supply for the domestic market. The largest importer in the ISO and in the region is Japan, and the largest ISO quotas for our regional members are destined for Japan. One of the main reasons Thailand joined the organization in 1969 was to get a share of the Japanese market, which she could not supply as a non-member. However, since early 1972, when the international price of sugar rose above the maximum of 5.25¢ a lb set by the ISO, all quotas have become inoperative. Thus, non-members such as Thailand can export to Japan, especially in the event of a projected world sugar shortage of 2 to 3 million m.t. in 1973. It can be expected that new quotas will be set in late 1973 or early 1974, after negotiations among member countries have fixed new floor and ceiling prices.

In addition to ISO arrangements, there are preferential agreements which apply to both members and non-members of the ISO. Although the Philippines is a member, its exports are totally destined for the US, a non-member. The International Sugar Agreement provides an exemption which states that sugar sold to the US does not have to come under ISO quotas. Thus, the Philippines can sell to its preferential market, often at higher prices than those set by the ISO, and not be bound by basic export tonnages, an arrangement which some exporting members consider unfair. However, the Laurel-Langley Agreement and the Sugar Act will expire in 1974, and the Philippines will then have to compete on an equal basis with all other exporters. Although it is quite probable that a new sugar agreement may be negotiated with the US at that time, the Philippines is presently seeking an additional 300,000 ton quota from the International Sugar Organization. Australia, Taiwan and Thailand also export to the US under such preferential agreements. In this market the price is determined by mutual agreement, and does not depend on the prevailing world market

Table 3.3 Exports and import of sugar
1969-71: Quantity m.t., value \$(US)'000

		Exports			Imports		
		1969	1970	1971	1969	1970	1971
Australia	Q	2,091,073	1,378,900	1,723,252	—	—	—
	V	136,089	129,598	172,148	1	1	3
Japan	Q	22,535	4,316	7,518	2,228,666	2,599,960	2,497,830
	V	1,830	634	1,160	197,633	283,713	330,738
New Zealand	Q	319	191	96	154,422	139,454	156,865
	V	39	28	18	8,492	10,193	15,220
Korea	Q	5,613	9,466	3,757	284,753	229,453	260,371
	V	1,012	1,462	504	21,411	23,513	31,069
Taiwan	Q	527,816	409,640	522,612	—	—	—
	V	45,902	45,385	62,649	—	—	—
Malaysia	Q	88	1,920	n.a.	353,885	393,041	n.a.
	V	11	228	2,275	24,766	35,838	34,803
Philippines	Q	979,543	1,227,570	1,344,677	—	—	—
	V	148,796	187,653	212,348	—	—	—
Vietnam	Q	—	—	—	292,582	102,312	288,493
	V	—	—	—	14,200	6,875	12,822
Thailand	Q	16,102	56,249	174,571	4	4	1
	V	2,259	4,506	18,347	5	3	3

price. Other large importers in the area which are not members of the ISO are Hong Kong, Malaysia, Singapore, Pakistan, South Vietnam and Sri Lanka. While quotas were operating, Thailand was in a good position to supply these markets through preferential agreements. However, members of the ISO are also allowed to export to such "free" markets under exemptions in the ISA. Singapore is planning to join the ISA in 1974 and thus her requirements will come under fixed arrangements. Another marketing arrangement which has been included under the ISO is the British Commonwealth Sugar Agreement which became effective in January 1954. This was made for an indefinite duration but is subject to triennial review. Under this agreement Australia negotiated a price quota for 335,000 m.t. per year to the UK. The negotiated price for 1966-68 was £43.10 (\$(US) 103.44) per ton of bulk raw sugar f.o.b., and was extended to 1971. The UK, which has been a member of the ISO and which has absorbed a large portion of Australia's exports will be pulling out of the ISO with its entry into the EEC. However, the EEC will allow sugar imports into the UK under the Commonwealth Sugar Agreement until its expiry at the end of 1974.

Tea

Tea has long been an important Asian export, and plantations have been common in South and Southeast Asia since colonial times. The main exporters of tea in the Southeast and East Asian countries were former colonies, and the direction of their exports reflects their historical ties. Malaysia exports mainly to Britain, Vietnam to France, and Taiwan and Korea to Japan. In 1971 only Korea, Taiwan and Vietnam were net exporters of tea, Taiwan being by far the largest. Taiwan and Vietnam have no imports of tea due to a prohibitive 130 percent tariff in Taiwan and an import ban in Vietnam. Although Malaysia exports tea to England, she is a net importer due to the import of specialty teas from Mainland China and Sri Lanka. Thailand, which was never a colony, does not have large plantations and is a net importer (see table 3.4). However, Thailand's tea production has been increasing in recent years, partly because of government efforts to induce hilltribes to grow tea in Northern Thailand. The Philippines does not export tea at all, possibly because neither the Spanish nor the Americans are tea-drinkers. There are two major types of tea — black and green — which are often called "fermented" and "unfermented" respec-

tively. In general it can be said that black tea is consumed in Europe and the US while green tea is consumed in Asia and Africa. Although the same tea plant is grown for the production of both, the processing differs. The leaves are fermented to produce black tea, but boiled to produce green tea. For black tea the fermented leaves are fired or dried in a hot air dryer at a temperature of 95°C for one-half hour, leaving them with a moisture content of 3 to 5 percent. Firing and grading for green tea is the same as black tea, but the fermentation process is eliminated for the former.

The black tea market

The prospects for substantial increases in the export of black tea from the Southeast and East Asian countries do not seem particularly bright, due mainly to an excess supply situation in the world market. In the first place, Sri Lanka and India are the world's largest exporters of tea. Being former British colonies, tea plantations are well established and their techniques of production are quite advanced. In addition, wage rates in the two countries are very low, constituting a comparative advantage over Korea, Taiwan and Malaysia where wage rates are higher. Tea is a labour-intensive commodity, due to the maturing of leaves at different times and the labour content accounts for about 40 to 45 percent of the production costs in Malaysia. Because of their high quality, Ceylonese and Indian teas command a premium price in international markets. Black tea from Southeast and East Asia is hindered by higher production costs, lower prices and higher freight rates to Europe. In addition, production is increasing in some African countries, which have better access to the European market. It is a good crop for high wet areas in Africa where other crops simply cannot be grown. Another problem of the black tea market is on the purchasing side. In London, the largest market for tea, buying is done on an auction basis. First, a Malaysian company will send a sample of its tea to a London broker who will test the tea and send back an estimate of the price it might fetch in C & F terms. If the Malaysian company is willing to sell at that price it will send a shipment to London and instruct the agent to sell at the highest price, but the exact price is not determined before the shipment is made. In New York the price is determined on the commodity market and constantly changes according to supply and demand. Since the demand for tea in the US is much smaller than that in England, there is less competition among foreign suppliers of tea in the New York market. The situation is not more advantageous to the supplier; however, since the uncertainty of price exists to the same extent in both markets.

The green tea market

However, there does seem to be some scope for increased intra-regional exports of tea. From matrices showing intra-regional trade in the commodity from 1963-1969 we find that Korea, Taiwan and Malaysia all have significant regional exports – especially to Japan, Australia and Thailand. Vietnam's exports are mainly confined to Europe. Since Asians are avid tea-drinkers, it is probable that demand, especially in Japan, will continue to grow steadily throughout the region. Prices for Southeast and East Asian tea in the London market in late 1972 ranged from 35 to 41 pence per kilogramme, depending on quality. For Indian tea the price range was between 39 to 44 pence per kilogramme. These prices were generally about 15 to 20 below domestic prices for tea in the supplying countries in Southeast and East Asia. Consequently, large producers in Malaysia, Taiwan and Vietnam have begun to switch to production of green tea for domestic and other Asian markets. The countries of Southeast and East Asia seem willing to concede Sri Lanka's and India's comparative advantages in Western markets. Malaysia's largest producer has switched from the export market to the domestic market. The firm does not consider it worthwhile to export to England unless it can obtain reasonable prices, and now will export only in the event of a surplus. One of Vietnam's largest tea producers has ceased production of black tea and is presently trying to gain some portion of the Japanese market for green tea. Taiwan, by far the largest exporter in the region, no longer considers tea worthy of special export promotion, and is concentrating her efforts on commodities with a larger manufacturing component. The main marketing factor which may jeopardize Southeast and East Asia's advantage in the green tea market is the entry of the People's Republic of China into the competition. By quoting low prices and making available large quantities, Mainland China may be able to capture a large proportion of the Japanese market. But with continued increasing demand in Asia, it is not improbable that

Table 3:4: Exports and imports of tea

	Exports			Imports			1969-71, \$(US)'000
	1969	1970	1971	1969	1970	1971	
Australia	984	935	1,041	25,184	20,235	23,212	
Japan	1,301	1,168	1,201	12,252	17,544	19,866	
New Zealand	—	—	—	5,961	5,163	4,821	
Korea	126	366	572	184	34	9	
Taiwan	9,832	12,669	13,597	—	—	—	
Malaysia	1,460	1,236	1,125	1,842	1,715	1,630	
Philippines	—	—	—	90	10	104	
Thailand	61	59	71	2,003	1,469	1,362	
Vietnam	101	31	19	—	—	—	

supplying countries may at least retain their present share of the domestic and East Asian markets. However, because of its particular marketing problems, tea does not seem to warrant special export promotion.

Tobacco

Tobacco is one of the most familiar luxuries to mankind, with its world-wide consumption amounting to about five million m.t. a year. In spite of the rising controversy over the harmfulness of smoking to human health, demand for tobacco is steadily rising.

World tobacco market

Since the latter half of the 1960's, the structure of world leaf tobacco trading has changed considerably. In 1965 an embargo was placed on exports of leaf tobacco from Rhodesia, one of the world's largest exporters. Since that time many developing countries, which had been striving merely to meet their domestic demand, gradually became interested in the export of leaf tobacco. As this trend continued, the US, Greece and Turkey, which were the world's largest suppliers of leaf tobacco, began to lose a share of their market to the developing countries, partly because these three suppliers had drastically reduced their own production of leaf tobacco by 1968. By 1969, half the entire world production was produced by Asian countries, mainly Mainland China and India, but the US was still the major exporter, supplying about 30 percent of the world market. Developing countries in the Pacific-Asian region which have begun to claim a portion of the market are Korea, the Philippines, Thailand, Taiwan, and Indonesia. The main variety of tobacco exported from these countries is the mild, "yellow" type of Virginia flue-cured tobacco. However, small amounts of dark, strong types for cigar wrappings and pipe tobacco are exported from the Philippines and Indonesia. Leaf tobacco is a commodity in which most countries are both importers and exporters. This is mainly a result of the blending of many grades of tobacco when manufacturing tobacco products. In general lower-grade mild tobaccos of Southeast and East Asia are used as "neutral filler" in the tobacco products of Europe and the US. These tobaccos have the advantage of being low in nicotine, without spoiling the flavor of the stronger high-grade tobaccos being used. Demand for such low-nicotine fillers has been especially increasing since 1970 when world publicity exposed the dangers of cigarette smoking to health. To blend with their own tobaccos, Asian countries import high-grade tobacco from the US and Turkey, using their own as filler. Because of this blending process imports to the Asian countries will probably not decrease. However, an increase in exports is only limited by supply constraints. Demand exceeds supply in every case, especially in countries such as England and West Germany, where all or almost all of the demand has to be imported. Increasing world demand has caused the international prices of tobacco to rise rapidly in the last few years.

Exporters in the region

South Korea.— The value of tobacco leaf exports from Korea amounted to \$(US) 14 million in 1971 as compared with \$2.3 million in 1965. While production of leaf averaged approximately 30,000 m.t. a year up until 1964, it increased significantly after 1965 and has been averaging 60,000 m.t. a year since 1965. After a peak of 74,000 m.t. was reached in 1966, however, production began to decrease by about 2 percent a year due to unfavorable weather conditions and a movement of farmers out of this crop. Production recovered somewhat in 1971 with an output of 63,000 m.t. and in 1972 with a surprising 110,000 m.t. During the past few years, Korea has supplied approximately 50,000 to 55,000 m.t. annually for domestic consumption, and has exported about 10,000 to 15,000 m.t. [K3, pp. 12-5]. Control over production and marketing of tobacco is exerted by the Korean Office of Monopoly (KEMO). Tobacco farmers are allocated certain acreages on which to grow tobacco. Generally, it takes about 4 to 5 years for the farmers to develop leaves of good quality. After the farmer has completed the process of drying (consisting of sun, fire or shade drying for 80 to 100 hours), he heaps up the dried leaf tobacco for fermentation, which takes 1 to 2 weeks. At this stage, the government monopoly buys up all production, and handles the redrying, quality control and distribution. Although all purchases from farmers are strictly controlled by KEMO, export is handled by six private concerns. After presenting letters of credit from abroad, each exporter can purchase leaf from KEMO up to a total export allocated by the Monopoly based on past performance. At the present time KEMO subsidizes farmers by paying them a high fixed price and selling to the export companies at 70 percent of the price paid to farmers. The relatively low export price encourages European countries to buy Korean tobacco, which has been improving in quality steadily. The largest Korean exporter is a joint-venture with Transcontinental Leaf, one of the largest tobacco companies in the world. This company buys green leaf from KEMO as soon as it comes from the farmers. Then they redry it at their own factory and export all that is purchased. Most of Korea's tobacco exports are destined for continental Europe and the UK, with a small amount being exported to the US. The only difficulty facing the industry is lack of supply. Exporters feel that even more encouragement should be given to farmers to grow this crop.

The Philippines.— The tobacco industry was started in the Philippines by the Spanish in the late 19th century, and was encouraged by the Americans during the 20th century. The industry is still largely controlled by foreigners, although it is also a very profitable business for the Filipino farmers themselves. Before 1969, the Philippines exported mainly leaves for cigars. In 1970 the country exported more of the flue-cured yellow variety with low tar and nicotine content. Exports of leaf tobacco exceeded \$14 million in 1971, and are growing as fast as can be expected under unfavourable weather conditions. Marketing arrangements in the Philippines are handled by private cigarette or cigar manufacturers who purchase leaf tobacco from private Filipino farmers as well as from their own *haciendas*. One of the largest tobacco producers exports about 70 percent of its production, most of which is destined for its Spanish parent company, which in turn distributes the tobacco throughout Europe. This company purchases 10 to 12 percent from its own *haciendas* and the rest from private farmers. According to the Philippines Virginia Tobacco Administration, there is a law requiring each manufacturer of tobacco products who imports high grade tobacco for blends to first export four times that amount of leaf tobacco. In order to import one ton of tobacco, the cigarette manufacturers must present an export bill for four tons. This arrangement has created the problem of quality deterioration and an excess supply of low-quality tobacco in the Philippines. The cigarette manufacturer buys up low-quality tobacco at a low price and sells it at a low price abroad simply to carry out his obligations to the government. Producers therefore give little attention to quality and may adulterate the tobacco with dirt or sticks. The Tobacco Manufacturer's Association sells all excess production for very low prices to such countries as Spain, Korea, France and Vietnam.

The overwhelming problem facing the Philippine tobacco industry at present is the shortage of quality tobacco. In 1971 output was 58 percent of the normal harvest and in 1972 only 20 to 30 percent of the normal harvest. Such low output is partly a result of natural disasters which are common in the Philippines — droughts, floods, earthquakes and so on. In addition to such calamities

ties, the area planted to quality tobacco has decreased slightly since 1968, while yields have remained relatively stable over the same period. Because of this unfortunate situation, prices paid to farmers for quality leaf tobacco have been skyrocketing during the past few years. While the price was about \$200 a m.t. in 1970, it rose to \$400 a m.t. in 1971 and \$770 a m.t. in 1972. Export prices have also been rising, although not as rapidly as those on the domestic market. The tobacco companies had been asking for government assistance to farmers for research on quality improvement. Before mid-1973, the government was promoting only the manufacture of the famous Filipino cigars. In September 1973, however, the government created a Tobacco Industry Promotion and Stabilization Fund. The Fund will be derived from taxes on products manufactured from cigar filler and wrapper leaf tobacco. It will be used for price stabilization as well as for research and development expenses in tobacco-growing provinces. Such a step should begin to improve the problems of low quality and improper curing. Export cannot be meaningfully expanded until the proportion of quality tobacco is increased.

Thailand.—Tobacco became one of Thailand's ten major export industries in the latter half of the 1960's. Tobacco growing is being strongly encouraged in the North as a new cash-crop for the hilltribes of the area, and production has been expanding by 10 to 15 percent a year since 1964. As techniques are learned and improved the prospects for exports look very bright. One large exporter feels that tobacco growing could take the place of rice in Thailand's 14 Northern provinces. All purchases for domestic manufacture (including imports) are controlled by the Thailand Tobacco Monopoly (TTM), which was established in 1941, when the government bought out the British-American Tobacco franchise. The TTM purchases about one-third of the total leaf tobacco grown in the country, much of which comes from its own plantations in the North and Northeast. Domestic tobacco is used as filler in the blends produced by the TTM's three factories which concentrate mainly on cigarettes. In 1971 Thailand purchased over \$20 million worth of American tobacco, compared with only \$4 to 5 million worth from Thai tobacco farmers.

Production of tobacco in Thailand is actually controlled by the Excise Department, rather than the TTM. This Department grants to a licensed curer a franchise area which may consist of several villages. Since each farmer needs a license to grow tobacco, the curer applies for a franchise area for the group of farmers collectively. For each franchise area, the curer sets up a curing station, which includes curing barns and storage facilities. Export is controlled by these private curers, who are allowed to export all they produce after the requirements of TTM are met. In 1972 Thailand exported a record amount of almost 18,000 metric tons, worth approximately \$13.5 million. The demand for Thai tobacco is quite high and its quality commands a relatively high price at the export market, due to its reputation as having the lowest nicotine content in the world. Thailand is the fourth largest supplier to Japan with other major markets including Europe, and the US, although small amounts are destined for neighbouring countries such as Singapore and Malaysia. [T6, 5 March 1973, p. 11]. As in the Philippines, the only obstacle to increasing the value of exports is a shortage of supply. The major exporter says that demand is ten times what he is able to supply and that the 1973 crop is only half that of 1972. The shortage in Thailand is not only a result of unfavourable weather conditions last year, but also of insufficient official aid and promotion. Investment in curing barns, storage facilities and central grading offices is very expensive, making it difficult for existing producers to expand at a rapid rate. Curers allege that the TTM, which is the top money-maker among Thai state enterprises, does not show enough interest in the leaf tobacco business and the welfare of the farmers. The curers feel that promotional efforts, such as concessionary interest rates, should be made to assure expansion in production and franchise areas.

Taiwan.—Although Taiwan's exports are considerably lower than the three countries previously discussed, exports have been rising steadily since 1968. The Taiwan Tobacco and Wine Monopoly Board (TTWMB) controls all aspects of the industry from production to export. Each farmer must apply to the Farmers Association for a quota if he wants to grow tobacco. The Association in turn receives quotas from the TTWMB, which also supplies them with instructions, seed, fertilizer, and low-interest loans. After the initial drying process, the TTWMB buys up all production, whether good or bad, and transfers the green leaf to its redrying plants. The price given

Table 3.5: Exports and imports of leaf tobacco

		1969-71, Quantity m.t., \$(US)'000					
		Exports			Imports		
		1969	1970	1971	1969	1970	1971
Australia	Q	n.a.	n.a.	505	n.a.	n.a.	13,487
	V	768	834	772	24,220	26,961	23,904
Japan	Q	3,637	6,115	6,037	33,085	32,955	45,308
	V	4,439	8,700	8,497	66,358	65,513	95,356
New Zealand	Q	7	2	—	3,411	2,197	3,378
	V	8	4	—	5,451	4,471	7,003
Korea	Q	17,959	19,345	15,453	582	432	2,629
	V	11,920	12,533	13,982	667	396	3,031
Taiwan	Q	3,013	3,111	3,144	2,265	6,236	5,573
	V	2,024	2,123	2,267	3,557	12,777	11,603
Malaysia	Q	31	389	n.a.	5,981	6,206	n.a.
	V	30	443	383	10,967	11,827	10,582
Philippines	Q	22,359	31,919	38,965	5,165	4,426	2,603
	V	16,736	14,123	14,616	8,284	7,232	4,591
Vietnam	Q	—	—	—	5,798	n.a.	4,656
	V	—	—	—	6,141	n.a.	3,009
Thailand	Q	8,566	11,090	13,157	12,186	7,684	13,344
	V	7,235	9,718	11,344	22,713	13,425	24,370

to farmers is negotiated before growing, and acreage is controlled according to demand estimates. In 1971 production amounted to 16,808 m.t. of which 3,144 m.t. were exported, with a value of \$(US) 2.7 million. The main markets for Taiwan tobacco are Japan, the Philippines and Europe. Although the TTWMB plans to increase acreage each year there is heavy competition from other crops for limited arable land.

Japan produces three kinds of tobacco: a native variety, a yellow variety and a burley variety. The yellow variety is the most widely cultivated followed by the burley and native types. Production of burley is increasing slightly, while that of the other two is dropping off. Total output is expected to decrease in the future, although consumption continues to increase. In Japan every aspect of tobacco production, manufacture and sales is carefully controlled by the Japan Monopoly Corporation, which determines the annual domestic output and import level. In 1971 Japan was able to produce 80 percent of its domestic needs for tobacco. Because of land limitations it is expected that this percentage will decline in future.

Copper ores and other mineral products

One of the most important groups of commodities traded between developing and developed countries is minerals, both metallic and non-metallic, which the Southeast Asian countries have in abundance. Japan is by far the largest market for minerals in the region due to its lack of natural resources and dependence on imports of raw materials. Thailand and Malaysia export huge quantities of tin and small amounts of iron, lead and copper ores. The Philippines has large deposits of copper and some iron ore, while Indonesia has relatively unexploited resources in all the above-mentioned minerals. In addition, Korea exports lead and iron ore while Taiwan exports copper ore. Australia is the world's largest exporter of iron ore and a rapidly expanding producer of copper ores and metals. In future the Philippines and Indonesia are expected to be the region's main producers of copper while Malaysia, Indonesia and Thailand will be the major producers of tin. Approximate annual values of metallic mineral exports from the region could increase from the present level of \$600 million to as much as \$3,200 million by 1990. Obviously, the countries of the Pacific-Asian region have an absolute advantage over many developed nations such as Japan

and the EEC due simply to large domestic mineral deposits. Generally, Southeast Asian nations export almost all of their ore production, since these countries do not have the smelting and refining facilities to produce metals. In this profile we deal only with copper ores as they presently seem to have the best export potential among metallic minerals. Exports of iron ore from Southeast Asia have been declining drastically in recent years due to cut-backs in steel production in Japan. Producers of iron ore, especially in the Philippines, have been switching to production of copper ore, where profitability is higher and processing is essentially the same as for iron ore. In recent years tin exports from Thailand and Malaysia have been stagnating due to the replacement of tin cans by aluminium in the canned goods industry, and to the release of tin stockpiles by the US. Although exports of such minerals will undoubtedly increase in future, at present copper ore production for export shows the most promise.

Copper ores and concentrates

Copper ore was originally considered a by-product of the gold-mining industry, but now it has been recognized as a valuable mineral in its own right and has become the main output of many mines. Other by-products from copper and gold-mining include metallic minerals such as silver, pyrite and energite and non-metallic minerals such as quartz, barite, alunite, limonite and kaolin. Copper is now widely used in the electronics industry for copper magnet wires, copper wire and cable, and copper sheets and strips as well as in the transportation industry for automotive parts. Copper can be exported in the form of copper concentrates which are produced by a floatation process after crushing and grinding. The importing country can then put the concentrates through smelting and refining operations in order to produce finished metal. Some exporters are smelting the concentrates themselves and exporting copper blister, which still must be refined by the importer.

The Philippines at present is the biggest copper producer in Asia, and has long been the major gold producer in the region. The mining industry, particularly copper, now contributes over 17 percent of total export earnings, amounting to over \$200 million per year, and accounts for 2.5 percent of the GNP in the Philippines. A major portion of the copper ore production of the Philippines is exported in concentrate form, approximately 80 percent of which is sent to Japan. Thus, every time the Japanese economy goes into a recession, the consequences can be severe: large physical inventories; long-term contracts between Philippine mining companies and Japanese importers which are not fully honored; and price and revenue declines. The Philippines now has a 40 percent share of the Japanese copper market, but exporters are making attempts to diversify markets away from Japan. At present the domestic demand from the electrical, non-ferrous casting, and automotive industries amounts to about 15,000 m.t. per year, and is met mainly from imports of finished copper products from Japan. A small amount of local copper concentrates is used domestically by wire and cable firms.

Copper concentrates production has been the most profitable of mining activities until the last few years, with some companies registering rates of return on equity exceeding 50 percent a year. However, the Philippines has been losing potential value-added income because of the lack of a refinery and a smelter, which could produce finished copper metal or semi-finished copper blister for export. Since reserves of copper in the Philippines are large (estimated at more than 800,000,000 m.t.), and since domestic and foreign demand are sure to increase, the two largest copper companies in the Philippines are planning to have smelters in operation by 1976. Atlas Mining is planning a smelter with a production capacity of 36,000 tons of metal while Lepanto has started building a plant with capacity of 80,000 tons of metal. Copper smelting is listed in the Sixth Investment Priorities Plan as a pioneer industry and thus liberal incentives will be given to both companies to construct their smelters. A Board of Investment Industrial Profile indicates that one smelter with a yearly capacity of 60,000 m.t. of blister copper and 20,000 m.t. of refined copper might be sufficient to supply both domestic and export needs. However, the two companies are mining different types of ore and both feel they need a smelter appropriate to their specific needs.

One problem the companies may face after building smelters is with raw material supply. Com-

panies such as Atlas have signed long-term (1970-79) agreements with Japanese smelting concerns to supply copper concentrates for smelting in Japan. It is possible that production will not be sufficient in 1976 to supply Japan with copper concentrates as well as to supply domestic needs of the smelter. On the other hand, the Japanese might agree to channel their concentrates to the Philippines smelter. In addition, a smelter in the Philippines would lessen dependence on the Japanese market. From 1970 to 1972 world prices were been low and Japan was over-supplied with concentrates. The Japanese smelting companies asked Philippines firms to cut production by 20 percent, and thus the latter have been working below capacity. This was attributed partly to a surcharge imposed on buyers of concentrate in August 1971 in line with anti-pollution requirements imposed on smelting and refining operations. If stocks are accumulated, Philippines ore reserves will certainly be sufficient to supply both domestic smelter needs and long-term contract supplies to Japan.

Exports of copper concentrates from the Philippines have shown impressive growth since 1966, averaging yearly increases of 22.6 percent in volume terms and 21.4 percent in value terms from 1966 to 1971. The volume of exports increasing by 41.5 percent in 1971 over 1970, reaching 894,367 m.t. in 1971. However, at the same time, value increased by only 0.4 percent in 1971 (amounting to \$185.9 million), having a very adverse effect on Philippine export expectations. Whereas copper prices had been rising steadily between 1962 and 1968, accounting for 40 percent of the gain in export value during that period, the world price fell from (US 80¢ a lb in 1969 to 46¢ a lb in late 1972 (London Metal Exchange). In addition, costs have been rising as miners have to move to marginal beds which produce ore with a lower copper content. In spite of the two-year weakness in copper prices, the industry continues to post a 16 percent annual growth rate in production volume, although inventories have been rather high lately. By September 1973, the price had again risen to 80¢ a lb, and there was a ready market for all copper ores that could be produced. Expectations for the medium-term are bright as prices of mineral products began to recover in 1973. With Japan on full recovery and other copper producing countries (such as Chile) bothered by political, technological and labor problems, mining in the Philippines is expected to be the leading growth sector.

Australia.— The second largest exporter of copper concentrates in the Pacific Asian region is Australia, with export amounting to \$(US) 36.8 million in 1971, an increase of 12.5 percent over 1970. By 1972 exports of concentrates declined by 12 percent to \$32.5 million. Almost all of concentrate exports were sent to Japan, where they were further smelted and refined. Unlike the Philippines, however, Australia is not limited to exports of concentrates, since both smelting and refining are carried out domestically. The production of finished copper metal and copper products gives Australia much more flexibility and diversity in products and markets. Australia exported refined copper metal worth \$61 million in 1972, an increase of almost 50 percent over 1971. Exports of products made from copper and copper alloys such as bars, rods, angles and sheets amounted to \$23 million in 1972, showing a slight decrease from 1971. Exports of refined copper metal are generally sent to European markets, especially the EEC, and products of copper and alloys are sent to Southeast Asia and the Middle East. The copper derivative which has shown the largest decline in export value in recent years is copper blister which declined by 49 percent from \$11.4 million in 1971 to \$7.9 million in 1972. Blister has been sent mainly to Japan in the past, but now most production is retained domestically.

Mine production in terms of metallic content amounted to 168,500 m.t. in 1971, a 7.5 percent increase over 1970. The ore was sent to smelters where production in 1970 reached 143,200 m.t. of primary blister and 120,200 tons of primary refined copper. Exports of refined copper were 49,200 m.t., so that apparent domestic consumption was about 89,400 m.t. (taking account of inventories), compared with 79,200 in 1970. Due to low profitability resulting from falling world copper prices, lower grade ore and seasonal water supply problems, one large mine suspended its operations in late 1971. Ore reserves have been reported at 3,352,380 m.t. [A3, p.p. 21-2]. Seven Japanese copper smelters have made long-term contracts with Bougainville Copper Pty. Ltd., amounting to 96,500 m.t. of copper in concentrates a year. However, the recession in Japanese domestic and export demand, coupled with pollution problems, caused importers in Japan to begin

Table 3.6: Exports and imports of copper ores and concentrates

	Exports			Imports			1969-71, \$(US) '000
	1969	1970	1971	1969	1970	1971	
Australia	10,878	16,316	36,845	—	3	8	
Japan	—	—	—	341,283	484,233	464,869	
Korea	—	—	—	5,481	5,391	3,026	
Taiwan	1,262	1,314	519	—	1	1	
Malaysia	71	129	91	4	19	44	
Philippines	136,367	190,898	188,936	—	—	—	

negotiations late in 1971 to reduce their buying commitments by 20 per cent until the end of 1973. Bougainville Copper hopes to offset any possible loss of sales to Japan by diversifying its markets and by increasing production of higher grade ore. Since the beginning of 1967 the Australian Producers price has been adjusted regularly to give producers a fair price as well as to reflect movements in the London Metal Exchange daily selling price. Prices were following the same downward trend witnessed in the Philippines during the early 1970's.

Taiwan.— The only other exporter of copper ores and concentrates in the region, and lagging far behind the Philippines and Australia, is Taiwan. The export value of this commodity amounted to only \$519,000 in 1971, a decline of 60 percent from the record year of 1970. One of the major reasons for the decline was that Taiwan began smelting its own copper, enabling her to use the relatively limited production domestically. The major gold and copper producer in Taiwan is the Taiwan Metal Mining Corporation which is now a government enterprise. The ore deposits near Taipei were discovered in 1893 and mining was started in 1896. In 1931 the mines were acquired by Nippon Mining Company which modernized the mining and milling equipment. Concentrates were exported to Japan for smelting and refining. In 1945 after World War II, the mine was taken over by the Taiwan Copper Mining Office and was reorganized as the Taiwan Metal Mining Corp. in 1955. The company can produce about 400,000 m.t. of ores per year: 2,500 m.t. of copper; 600 kg. of gold; 2,000 kg. of silver and 30,000 m.t. of pyrite. The major product is gold copper ore, which the company can refine into metal at a rate of 400,000 m.t. a year. Chances are that exports of copper concentrate from Taiwan will continue to decrease, while exports of products such as copper and brass sheets and strips will increase. Hopefully, increased domestic production metal will replace large imports of finished copper in future.

Resource-based intermediate products

Although primary commodities may remain the mainstay of Southeast Asian exporters for some time, resource-based manufactures show more future promise, since they depend on an abundance of both labour and resources. Growth rates of exports for the six commodities included in this category have been much higher than those for primary goods in recent years. Exports from developing ECOSEN countries of six commodities increased by 40.1 percent in 1969-70 and by 29.4 percent in 1970-71. The industries included under SITC category 4 (animal and vegetable fats and oils) and 6 (manufactured goods classified chiefly by material) are often those import substitution industries with which developing countries begin their industrialization. This is especially true for cement, textiles, iron and steel bars and rods, and rubber tyres and tubes. The plywood and vegetable oilseeds industries have generally developed for both the export and home market simultaneously. The products in this category are intermediate goods used by industry at home and abroad, and such goods account for two-thirds of total international trade. The commodities included in our survey are used by the construction industry (cement, iron and steel bars, and plywood), the automotive industry (tyres), the soap and food processing industries (vegetable oils) and the garment industry (fabrics). Although some of each commodity is sold directly to consumers, the largest markets are industrial and institutional.

The location of such industries, whether near the raw materials or near the market, is becoming increasingly arbitrary. Since most of these commodities have in common a high natural-resource content, the land and resource factor cannot be ignored when considering where processing should be located. As infrastructure facilities and complementary inputs are becoming increasingly available in developing countries, individual firms no longer have to bear heavy cost penalties for locating at the source of supply. In addition, freight costs are always lower for the processed product than for its raw material equivalent. Finally, the labor costs in some developed countries have become so high that developing countries may have a comparative advantage not only in labor-intensive industries but also in capital-intensive ones with a high ratio of unskilled to skilled workers. It is probably safe to assume that manufacturing of resource based intermediate goods will be increasingly located in the developing countries, and that such products will be accounting for a larger share of their export accounts.

On the other hand, value-added by processing of resource-based products of interest to the ECOSEN developing countries is often small in proportion to total costs incurred. Empirical research has shown that calculated effective rates of protection in developed countries of up to 100 percent due to tariffs alone are not uncommon in the processing of commodities such as groundnuts and crude coconut oil [G1, p. 112]. Such protective barriers shielding already established producers in developed countries have often forced developing countries to turn to export subsidies in order to gain access to such markets. Tariff rates in developed countries such as Japan are not generally very high on agricultural raw materials. However, the higher the degree of processing, the higher the tariff. Developed countries' tariff rates on plywood, textiles and vegetable oils have presented obstacles to export which the East Asian countries have only been able to overcome through tremendous efforts and efficiency. When developing countries manage to jump the tariff barriers, however, developed countries often have erected non-tariff barriers such as quotas. Presumably, developed countries will eventually restructure their industrial sectors, and will begin to eliminate barriers to trade in products in which developing countries obviously have comparative advantage.

In the meantime, the countries of Southeast and East Asia must concentrate on supply problems for commodities in which they have a market. They must learn to utilize land and resources

efficiently so their own processing industries will not encounter supply shortages, forcing them to work below capacity production. Quality considerations are also very important in developed country markets. Although the trend of consumer demand in developed countries is undoubtedly toward high-quality products, there remain a vast market for the low-priced, average-quality products in these countries. For most intermediate products, the most important variable may be the relation between quality and price. Perhaps more important than high quality is the reliability and constancy of quality standards offered. Reasonable costs for reasonable quality and reliability have been characteristics which have made Taiwan such a success. Such standards must be aimed for on the supply side. Finally, developed countries do not offer the only market for such resource-based products. Developing countries provide the major demand for cement, iron and steel bars and rubber tyres produced in Southeast and East Asia. Growing demand for textiles and vegetable oils in developing countries is also being met by other developing countries. Various aspects of the supply and demand situation prevailing in six resource-based industries will be discussed in the following pages.

Vegetable oilseeds and products

The vegetable oil industry is one in which developing Southeast Asian countries have a comparative advantage over developed countries in the region, especially if the oil involves local raw materials such as coconut or oil palm. The largest exporters of these oils are Malaysia and the Philippines, while Japan is the largest importer. At the present time Japan imports most of the seed used for oils (i.e. soyabean and palm kernels), and processes them domestically, rather than importing the oil itself. Since the oils, especially coconut and palm, are quite inexpensive, it would seem more rational for the developing countries to process their seeds at home and to export a semi-finished or finished oil. In fact the Japanese government has recommended that the countries of Southeast Asia shift exports from seeds to oils. This would save on freight costs and enhance the industry in developing countries. The vegetable oil industry is a light industry which does not require advanced technology but does require a large input of agricultural raw materials. Perhaps this is one industry in which Japan ought to modify her industrial structure. The major virtue of this industry lies in the great diversity of uses for oilseed products. The oils are used for the manufacture of soap, margarine, disinfectants, and antibiotics, and new uses are found for them constantly. In addition, the oils are used directly for cooking and salad dressing, the meals are used for animal feed, and the husks may be used for fibre or pulp, depending on the type of seed. Japanese demand for seed has been expanding rapidly because of the large Japanese crushing industry which has grown to meet increasing local and world demand for oils and fats. Japan will continue to import seeds and crude oil (especially palm) for further refinement. At present, Japan's demand is increasing faster in food manufacture than in soap manufacture. This is due to efforts to lessen pollution from detergents and to increased demand for raw materials of purely vegetable origin for the manufacture of margarine and other products. [J4, No. 8].

Soyabean products

For combined oil and seed products, soya is the most important in international trade. Soyabean has now been recognized as one of the principal supplementary protein feeds for livestock, and is now being manufactured into "synthetic meat" for human consumption. In addition soya is used in the manufacture of pharmaceuticals, insecticides, electrical insulation, salad oils and so on. The crude protein content of this meal is extremely high; it is one of the most concentrated vegetable sources of protein. Besides Japan's expanding industry, Taiwan, Korea and Singapore have developed their own soya industries, but they all have to import most of their raw materials from the United States, which supplied 90 percent of world exports of bean, meal and oil. The US ban on exports of soyabean on 13 June 1973 has almost crippled the industries in these countries, and has made more obvious the need for expanded production of the bean in the region. The export ban has had especially adverse effects on Japan, where soyabean are a very important source of protein in the daily diet. In Thailand, Malaysia and the Philippines, the vegetable oil industries are still based on coconut and palm oil. However, with rising incomes, it is likely that tastes will be changing to soyabean oil. Thailand's Third Five-Year plan has named soyabean as one of five products to be especially promoted, and one vegetable oil manufacturer in Thailand is producing

a product which combines rice bran and soyabean oil. Since Singapore, Taiwan, Japan and Korea have developed this industry, it would be advantageous for Thailand, Malaysia and the Philippines to develop a seed which can be grown in the region. Before the US disrupted raw material supplies, Japan had begun to export soyabean oil to meet rising world demand. Thus, the developing countries of Southeast Asia would benefit even more from the processing of the bean into oil domestically.

Coconut products

Copra (broken and dried coconut kernel) and coconut oil rate second in importance in international trade for oilseed products, with most of the exports directed toward developed countries outside the region (the US and Europe). Products from the coconut industry are varied those from the meat of the nut, used for human and animal consumption; fibrous products which arise from the shell, used for matting and brushes; and products arising from the sap, used for coconut syrup and alcoholic beverages. Coconut oil is used in the manufacture of fatty acids and glycerin, which in turn are widely used in the fields of surfactant alcohols (used in the textile industry), decomposition products, and soaps. Because of the ready availability of the raw material, Thailand and the Philippines use coconut oil as the main oil for cooking and manufacture. Although there are many uses for products arising from coconuts and the total value of exports from the region is high, the increase in the production of copra and oil since the 1950's has been much less than other oils. Japanese demand for coconut oil for edible purposes has remained rather stagnant since 1966, while industrial demand has risen slightly in some categories. [T2, Volume III]

The Philippines is the world's largest exporter of both copra and coconut oil, and controls over half of the world trade in these two commodities. Its exports have risen rapidly since a falling trend during 1967-69, and the Philippines is presently unable to satisfy world demand for the oil. Although the export value of oil increased impressively by 89 percent from 1969 to 1970, it increased by only 8 percent to \$US 104 million in 1971, partially due to falling export prices. Although the bulk of coconut shipments went to the United States, the value to that country decreased from \$83.6 million in 1970 to \$76.8 million in 1971. Exports to Germany dropped by 36 percent, while export to Italy increased by over four times and those to the Netherlands by almost three times. Export earnings from copra reached \$114 million in 1971, with major markets being the Netherlands, the US, and Germany. Japanese demand for copra from Southeast Asia has been decreasing while demand for Australasian copra has been increasing. In 1971 exports from the Philippines accounted for 40 percent of Japanese imports of copra, Indonesia for 20 percent and Australasia (mainly the Pacific islands) for 40 percent. However, in comparative terms, Japanese demand for coconut products is small. An expansionary period for the Philippine coconut industry started in 1971 and resulted from increased acreage of coconut trees planted about five to seven years ago. Overproduction in the Philippines caused falling prices during 1971 and 1972, but prices were recovering during the first half of 1973 and were up 20 percent over 1972 levels.

All four firms interviewed are presently working their plants at full capacity in order to supply international demand. However, the supply of coconuts to the factories is sporadic and often the plants have to adjust their production to the raw material supply. Because these firms are sometimes using obsolescent machinery and techniques, the factories are not run as efficiently as they should be. Another problem facing the manufacturers is the export tax which the government had levied on coconut products - 6 percent for coconuts and 4 percent for coconut oil (1972/3). Although this tax provided the government with a ready source of revenue, it may have prevented manufacturers from modernizing their techniques and machinery to improve efficiency. At the present time, demand prospects for coconut oil and products are very good. While the Philippines will undoubtedly retain her prominence in world markets, it is necessary to continue the rehabilitation of the industry through replanting trees and improving harvesting and crushing techniques. Already the Pacific islands of Australasia are gaining a large portion of the market, and if Indonesia, Malaysia and Thailand reorganize their industries, they probably will gain a part of the market. Although Thailand is sixth among producers in the world, its exports are small because the bulk of production is consumed locally. However, if Thailand does not increase the efficiency of her coconut industry, it will not even be able to supply domestic needs.

Table 4.1: Exports and imports of animal and vegetable fats and oils

	Exports			1969-71, \$(US'000)		
	1969	1970	1971	1969	1970	1971
Japan	14,375	25,835	49,036	63,927	78,796	83,579
Soya	629	3,786	6,213	202	1,369	201
Palm	69	187	65	6,747	9,927	10,605
Coconut	88	249	870	419	675	120
Australia	13,781	28,019	34,539	14,534	17,840	21,438
New Zealand	6.9	5.2	2.9	1,584	1,907	3,060
Philippines	50,681	96,000	103,875	5,142	5,457	6,331
Coconut	50,565	95,585	103,451	1,154	1,217	279
Malaysia	58,039	101,274	138,137	6,274	7,843	7,549
Palm	50,004	86,358	124,314	16	413	1,101
Coconut	7,942	14,020	12,124	n.a.	n.a.	n.a.
Taiwan	15	98	70	6,024	8,498	9,103
Korea	68	59	80	12,313	15,250	21,278
Thailand	129	728	954	944	2,323	2,529
Vietnam	—	—	—	1,501	3,641	1,123

Palm oil products

The palm oil export industry is dominated by Malaysia, while Japan is the main market in the region. Three products are produced in the palm oil industry — palm oil, palm kernels, and palm kernel oil — all of which have many uses in the manufacture of soap and margarine. The industry is price-sensitive and somewhat unstable, but world demand has been steadily rising since 1967. Malaysia is now the world's largest producer of palm oil products, and returns have been so satisfactory that many old rubber plantations have been burned and replanted with oil palm. Japan imports all three products and since 1966 there has been an upward trend in the value of her imports. While Japan's imports of palm kernel oil have shown a slight increase, imports of palm oil more than tripled from 1966-71. Malaysia also exports palm oil to Hong Kong, Taiwan, Korea and Thailand, as well as to Europe and South America. Indonesia has been increasing her production of palm oil tremendously in the last few years, and has been encroaching somewhat on Malaysia's traditional markets. Demand seems to be relatively steady, although prices are rather low internationally at present. Most of the large plants in Malaysia are presently forced to work at 75 to 80 percent of full capacity due to an insufficient supply of raw materials. However, because of large areas of land recently replanted, the raw material supply should be improving in the next few years. The industry is more recently established than the coconut industry in the Philippines, so the techniques used are quite efficient. But the manufacturers feel that if the export tax were lifted they would be able to expand plantations and operations. A feasibility study was carried out in Thailand in 1966 and it was shown that conditions in some part of Southern Thailand were suitable for production. Consequently, certain areas in two southern provinces have been planted to oil palm, in an effort to reduce imports of the oil from Malaysia.

Other oilseed products

In addition to the three main oilseed products mentioned above, potential products from developing Southeast and East Asian countries include cottonseed, kapok, sunflower, castor, sesame, groundnut, rice bran and maize germ oil and seed. World requirements for both the seeds and oils are large and Southeast Asia is a fertile area which could supply a good proportion of the world's demand. Refining of the oil domestically could increase the value-added accruing to the producing countries.

Rubber tyres and tubes and other rubber products

Natural rubber is the fourth or fifth most important commodity traded between developed and developing countries, and the value of trade in natural rubber amounted to approximately \$US1 billion a year from 1955 to 1970. The source of natural rubber is highly concentrated in four Southeast Asian countries — Malaysia, Indonesia, Thailand and Ceylon — which supply more than 90 percent of world exports of this commodity. In the post-war period, the market share for Indonesia has declined, while the shares of Thailand and Ceylon have stayed almost constant. Due to its highly effective replanting scheme, Malaysia's share has increased to nearly 50 percent of all natural rubber supplies in 1970. On the demand side, the transportation equipment industry (tyres and tubes) is the most important market for both natural and synthetic rubber. Non-tyre uses are mainly confined to manufacturing, especially of consumer goods. Consumption of rubber is thus very closely related to the industrial health of advanced countries. Poor prospects for natural rubber in the 1950's led to considerable investment in synthetic rubber production in industrial countries and the production share of synthetic rubber in the world market increased from 38 percent in 1955-57 to 60 percent in 1968. Thus, while growth in total world rubber consumption averaged 6.6 percent annually between 1955 and 1968, natural rubber consumption grew at only 2.9 percent per year. The growth in the use of synthetic rubber in the post-war period was initially due to its relatively greater elasticity of supply at the time of worldwide shortages of natural rubber and consequent high prices. More recently, the strength of synthetic rubber seems to lie in the ability of the synthetics industry to produce a wide range of synthetics of various qualities and prices which proved attractive to consumers. Natural rubber has retained a significant share of the market, however, because it has properties not available in the general purpose synthetic, styrene-butadiene rubber (SBR). Natural rubber thus remains technically essential for such products as heavy duty truck and aircraft tyres. For this reason, SBR is not expected to threaten the position of natural rubber significantly.

Japanese production

Rubber consumption in Japan has registered a very sharp rise on the spur of the nation's ever-growing automobile industry, which in turn has been bolstered by mounting domestic and export demand for motor vehicles. The growth in consumption of synthetic rubber was particularly remarkable, and the amount consumed by Japan surpassed that of natural rubber in 1966. By 1969 synthetic rubber accounted for more than 60 percent of Japan's total rubber consumption. This percentage, although smaller than the 77 percent share in the United States, is comparable with those in France, West Germany and Italy (60-to 64 percent). For all kinds of rubber, Japan is the second largest consumer in the world, following the United States. [J 2, p. 227]. Japan's production of synthetic rubber, which was started in 1959, has made rapid progress. It registered an average annual growth rate of 37.6 percent from 1960 to 1971, making it the fastest-growing sector of the petrochemical industry. Japan's imports of natural rubber amounted to 272,000 tons in 1972, 90 percent of which was imported from Malaysia, Thailand and Indonesia. Exports of all rubber products from Japan amounted to \$341 million in 1972. By items, tyres and tubes accounted for 70 percent and footgear for 7 percent. The principal importer was the US with Canada in second place. Japan is also the major supplier of synthetic rubber raw materials to the growing tyre manufacturing industries in developing Southeast and East Asian countries.

Production in developing countries

The trend in developing countries is to develop their own tyre and tube industries as import-substitution ventures. From recent statistics, it looks as if five countries in our survey — Korea, Taiwan, Malaysia, the Philippines and Thailand — are succeeding in import-substitution terms. Taking the five countries as a whole, their dependence on imports of tyres has switched to an export surplus. From a trade deficit amounting to \$9.9 million in 1969 the five countries showed a deficit of only \$0.8 million in 1970, and a surplus of \$7.2 million in 1971. Although exports from Korea and Taiwan contributed heavily to this success, the most rapidly growing exporter was Malaysia. Japanese, American and British tyre manufacturers have set up large production plants in the countries of Southeast Asia, where the supply of natural rubber is readily available and where labour is inexpensive.

East Asia.— Production of tyres and tubes has been progressing rapidly in Taiwan and Korea although all raw materials have to be imported from Southeast Asia, Japan and the US. In general, the manufacturers of tyres and tubes are indigenous companies receiving technical assistance from Japan or the US. In Taiwan production of automobile tyres alone increased 8-fold from 1962 to 1972, totalling almost 800,000 pieces in 1972. Motorcycle and bicycle tyres reached production levels of almost 2 million and 8 million pieces respectively in 1972. Production of all such products have shown rapid increases and imports have declined to almost nothing. Taiwan has now become self-sufficient in almost all categories of tyres, and has begun exporting her surplus in increasing amounts. Korea's production is not nearly as high as Taiwan's, amounting to a total of about 1.2 million motor vehicle tyres in 1972. However, Korea has also become self-sufficient and is exporting to the Middle East, the US, Japan and Australia.

Malaysia.— Because of Malaysia's predominance in world production of natural rubber, several large international tyre concerns have set up plants in that country. Dunlop Malaysia Industries was established in 1958 as a branch of the British company, which contributed 51 percent of the investment shares. In the early years, local production was confined to the manufacture of a range of latex foam products under the Dunlopillo brand name and made to international quality standards. Production was transferred to a modern higher-capacity plant in 1964, utilizing 100 percent domestic raw materials. From this factory a substantial part of production is exported to markets mainly in Southeast Asia. Tyre manufacturing, one of the first major industrial enterprises in Malaysia, began in 1962. Through successive expansions, Dunlop has not only kept pace with rapidly rising domestic demand, but has also exported to over 30 countries where product quality has been recognized as meeting international standards. The plant now produces 99 percent of the tyre sizes used in Malaysia, and the products range was further extended in 1968 to include tractor and earthmover tyres, the majority of which are exported. The major markets for all of Dunlop's exports are Australia, Thailand, Indonesia, Singapore, Africa and the Middle East. Most of these countries are developing countries which cannot produce tyres in sufficient quantity locally. Although all of the requirements for natural rubber can be met from local production, Dunlop has to import all its requirements for synthetic rubber, chemicals and nylon fabrics, mainly from Japan. Some chemicals are also imported from the US, Australia and the UK. The firm has had no difficulty in keeping its plants running at full capacity, due to high demand in Malaysia and the region. Another international tyre firm which has established a production outlet in Malaysia is Goodyear (Malaysia), Ltd.

Besides the international companies producing rubber tyres in Malaysia, there are also a few local companies which were established long ago as exporters of natural rubber, but which have expanded to the production of rubber products. One such firm is Shun Yip Leong Rubber Works, which was established in 1922 and now produces rubber hoses, conveyor belts and footwear as well as tyres for motor vehicles and bicycles. Exports are as yet small, but have been increasing steadily in the last several years, reaching about \$500,000 in 1971. Exporting has been somewhat difficult for this firm, since their prices are higher than Taiwan, and since they have not yet established a reputation in international markets. Another such firm is Fung Keong Rubber Manufacturing, which is a branch of the Singapore firm of the same name. The firm exports some motor cycle and bicycle tyres and tubes, rubber bands, and footwear to 40 countries. Tyre manufacture is at full capacity, and demand is rising. Prospects for tyre manufacture and export from Malaysia are encouraging. Exports tripled from \$1.5 million in 1969 to \$5.0 million in 1971, placing Malaysia's exports close to those of Taiwan. With local raw materials, inexpensive labour and an efficient government, expansion in the industry should go smoothly.

Thailand.— Since the establishment of Firestone in 1963, the manufacture of tyres in Thailand has developed rapidly. There are now four major producers of tyres in Thailand, which have made the country self-sufficient in most types of tyres, and which have the installed capacity for complete self-sufficiency. However, tyre manufacturers in Thailand still have to compete with some special imported types such as radial and steel cord tyres which are preferred by the public for certain applications. Despite this limitation, imports of tyres have fallen from \$14 million worth in 1963 to \$2.9 million worth in 1971, while exports of Thai-made tyres have started to climb.

The raw materials imported are mainly synthetic fibre products used in tyre manufacture, amounting to \$1.5 million in 1970. However, large quantities of local natural rubber are also used, the value being about twice that of the imported synthetics. It is calculated that about 45 percent of total production cost is defrayed within the country for local raw materials, other products, labour and services. This percentage may increase if the quality of Thai rubber improves. Exports of tyres, which rose from \$64,700 in 1969 to \$518,600 in 1971, are sent mainly to neighbouring countries such as Laos, Cambodia, Vietnam, and Indonesia. Since Thailand signed the US PD-31 agreement in 1972, which allows her to supply USAID requirements in Indochina, exports of tyres have increased considerably. It is probable that demand for such products will continue to increase during the reconstruction period in Indochina, giving a boost to the Thai industry.

The Firestone Tyre and Rubber (Thailand) Company was established in 1963 with 55 percent US investment. Firestone is still the largest producer of vehicle tyres in the country, with annual capacity of 460,000 tyres in 1970. It has a complete monopoly of the tractor tyre market, and produces seven sizes of truck tyres. The Thai Bridgestone Company, a Thai-Japanese joint venture, was established in 1969 with an annual capacity of about 250,000 tyres. About half the output is heavy duty truck tyres, while the rest consists of automobile tyres. The company is already planning expansion, and expects to increase production by 30 percent in 1973 or 1974. Firestone and Bridgestone each export about 5 percent of their total output, but orders are received only on an irregular basis. For example, in 1971 Bridgestone filled a \$130,000 one-time order for bus tyres placed by Iraq. The Goodyear (Thailand) Company, another Thai-US joint venture, which started with an annual output capacity of 300,000 tyres in April 1971, has now increased production capacity to 400,000. Car, truck, airplane, and tractor tyres are produced, as well as wires, fabrics, chemicals and oils needed in tyre manufacture. In 1971 Goodyear was the first to produce aircraft tyres in Thailand, including tyres for the Caravelle, Boeing 707, and Jumbo jets. About 80 percent of Goodyear's aircraft tyres are exported, mainly to Taiwan, Korea and Indonesia.

In 1972 the domestic consumption of tyres totalled a million tyres, of which 90 percent came from the domestic tyre industry. In 1972 only \$577,000 worth of earth moving and farm vehicle tyres were still imported. The local tyre industry does not warrant the production of specialized tyres due to the existing limited home market. At full production capacity the domestic industry can produce one million tyres, 80 percent of which are for passenger cars and taxis. Firestone, Bridgestone, and Goodyear can produce 90 percent of the country's tyre requirements. Other tyre manufacturers in the domestic industry include Universal Rubber Company, with a capacity of 75,000 tyres per year, and other local companies such as Nan Yang Manufacturing, Inove Rubber, and Thai Sin Rubber. [T1, p. 103]. At present there is slight excess capacity prevailing in the tyre industry, with Firestone working below capacity. Export markets have been somewhat difficult to find since most developing countries have their own tyre industry. In addition, Thailand's prices are generally higher than in Japan or Taiwan due to the smaller scale of the industry in Thailand. Although the domestic market is more lucrative, Firestone has been anxious to capture a part of the AID procurement programme in Vietnam in order to work the factory at full capacity.

The Philippines.— Although the Philippines does produce some natural rubber, production is very small compared to Malaysia and Thailand. The Philippines has not yet been able to move into the export market for tyres and tubes, since the country is not yet self-sufficient in the commodity. However, the import substitution aspect of the industry seems to be working, as imports have been decreasing over the past few years. One of the major tyre manufacturers in the Philippines is B.F. Goodrich, a Philippine-US joint venture which was established in 1950. The firm produces tyres and tubes for domestic consumption, and exports raw natural rubber to Japan. After meeting its own demand for raw rubber, the firm exports all the excess production of its plantations, which amounted to \$229,000 in 1972. It is not likely that the Philippines will be in a position to export tyres for many years to come. Domestic demand must be met first and production of natural rubber increased.

Table 4.2: Exports and imports of rubber tyres and tubes for vehicles and aircraft

	Exports			Imports			1969-71; \$(US)'000
	1969	1970	1971	1969	1970	1971	
Australia	7,535	12,178	9,620	24,537	29,119	46,032	
Japan	108,727	161,182	210,931	1,819	2,119	2,388	
New Zealand	386	66	123	2,063	2,879	2,700	
Korea	2,076	2,863	4,054	192	325	709	
Taiwan	2,832	3,655	5,003	330	376	336	
Malaysia	1,475	1,706	4,968	1,809	2,100	1,511	
Philippines	10	42	32	4,474	1,917	1,891	
Thailand	65	149	519	9,562	4,521	2,924	
Vietnam	—	—	—	4,206	3,496	2,517	

Plywood and other wood products

Plywood has become one of the major exports from the developing countries of the Asia and Pacific region to developed countries. There are essentially two types of plywood produced in the world, commonly called hardwood and softwood plywood. The United States is the largest producer of plywood in the world and its production and export are mainly of softwood plywood which is derived from conifer (pine) trees. This type of plywood is generally used for structural purposes such as prefabricated housing and flooring. Japan is the only country in the Pacific Asian region which produces softwood plywood, which is manufactured from domestic wood species such as oak and birch. Although softwood accounts for only 8 percent of Japan's plywood production, 55 percent of plywood exports are of the softwood variety. Japan's hardwood production is used almost entirely for the home market. Hardwood plywood is derived from non-conifer trees which are generally supplied from tropical areas. This type of plywood is used mainly for decorative purposes —wall panelling, parquet flooring and furniture. The main exporters of hardwood plywood in the Pacific Asia area are Korea, Taiwan, the Philippines and Malaysia. The lauan and teak woods from Southeast Asia are generally used for the thin coat of fine veneer while less valuable woods may be used for the inner core of plywood. As for raw materials, production and export of hardwood logs from tropical Asia have increased rapidly in the post-war period, and now account for nearly three-quarters of world tropical hardwood logs exported. Malaysia, the Philippines and Indonesia together account for over 90 percent of exports of hardwood from tropical Asia. The post-war pattern of the tropical timber trade in Asia is characterized by growing import of logs into Japan and increasingly into Korea and Taiwan, for processing into plywood and exporting mainly to the US and Canada. Japan imported 15 million cubic meters of timber in 1971, consisting of 97 percent logs, 2 percent of sawn wood and 1 percent of veneer. This pattern should begin to change in the near future, however, as Malaysia and the Philippines become more important producers of plywood and as they place increasing restrictions on the exports of logs. Although Korea and Taiwan continue to be the largest plywood exporters in the area, their dependence on imported raw materials may have adverse effects on the potential of this industry.

Japan

The plywood industry was established in Japan in 1907, when plywood of domestic species such as oak, birch and beech were used mainly for tea chests and musical instruments for the domestic market. In 1922, Japan began importing lauan logs suitable for plywood from Southeast Asia, especially the Philippines. Since that time lauan plywood has been the dominant type in Japan, except during World War II. Since the war, production of lauan plywood has increased tremendously, from 614,000 million square feet (msf) in 1951 to 19,762,000 msf in 1971. Presently in Japan, there are 284 plywood factories, 384 specialty plywood processing mills, and 55 veneer mills. Japanese plywood production in 1972 was estimated to consist of 92 percent lauan and other imported species and 8 percent domestic species. Of all plywood production in Japan, ap-

proximately 42 percent is of printed plywood, 30 percent of specially or secondarily processed plywood, and 12 percent of veneer plywood. During 1967-71, annual growth in the industry averaged 10 percent, maintaining Japan's position as the second largest producer in the world, after the US. The previous strong demand, both at home and abroad, for thin decorative plywood, has been replaced by higher demand for structural plywood for construction and flooring.

Exports of domestic species of plywood began in 1918 but exports were not substantial until 1948, when the major markets were the UK and other European countries. By 1953, the US had become Japan's major market and has remained so until the present time. However, whereas Japan supplied 80 percent of the US market in 1959, its share had declined to 8 percent by 1971, putting Japan in fourth place as a major supplier behind Korea, Taiwan and the Philippines. The peak of exports was reached in 1968, when about one-third of production was sent abroad. Since that time exports have levelled off due to the tremendous increase in exports to the US from other Asian countries and greatly increased domestic demand in Japan. In 1969 Japan's exports declined slightly from their level of 1968, and the percentage of exports to production dropped to 27 percent. In 1970 exports declined by 18 percent in volume terms and 19.6 percent in value terms from 1969. Following the Yen revaluation in December 1970, exports in 1971 showed a slight increase in volume terms (1.5 percent), but a 17 percent increase in value terms. A decline of 17 percent in volume terms in 1972 was accompanied by a 3 percent increase in the dollar value of exports, and the ratio of exports to production amounted to only 3.5 percent. The difference in growth rates between volume and value is due almost entirely to the two Yen revaluations and the consequent high price of exports (in dollar terms). While Japanese exports of lauan plywood have declined, demand in the US is still strong for the domestic species, which accounted for 55 percent of total exports in 1972. The domestic birch which is used for thick structural plywood is still popular in the US, despite very high prices. Plywood production of domestic species continues to be export-oriented, although the proportion of exports to production has declined from 80 percent in 1968 to 65 percent at present. The Japanese now find it uneconomical to export lauan plywood, especially because of competition from Korea, Taiwan and the Philippines. Japan is experiencing an acute labour shortage, as well as an increase in the value of the Yen, making costs entirely too high for the export market. Some Japanese manufacturers, however, have found it more profitable to switch from production in Japan to investment in Southeast Asia. New ventures are being established in Singapore and Vietnam to maintain Japan's place in the industry.

Korea

Plywood is Korea's second largest export earner after textile products, amounting to \$(US) 153.6 million in 1972, a 24 percent increase over 1971. In the seven-year period 1966-72, the annual increase in export value has averaged 33 percent, one of the fastest growing exports in the country. Such a record ranks Korea as the largest exporter of plywood in the Pacific Asia group of countries. The mass production of plywood on a modern scale was achieved with the establishment of the Tong Myung Timber Company in 1954. Although the company had been in existence since 1925, its modern production began when it was supplying the needs of the US army during the Korean War. Plywood continued to be produced entirely for the domestic market until 1959-60 when a test export was sent to the US. Export began on a full scale in 1961 and plywood soon became the most important source of foreign exchange. Exports rose from \$1.4 million worth in 1961 to \$2.8 million in 1962 and \$6.7 million in 1963. As demand increased, large-scale plants equipped with modern facilities were erected, and now there are seven large enterprises in operation. Tong Myung Timber is still the largest exporter of plywood, with export value reaching \$50.8 million in 1972, about one-third of Korea's total export of the commodity. The company exports about 80 percent of its production, of which most is sent to the US and a small amount to Japan. The firm is old and well-established, and importers have to come to it. However, Tong Myung has begun to feel increased competition both locally and from Taiwan, and is thus planning to open an office in the US to assist with marketing. The major difficulty faced by the company is that it has to import raw materials, especially lauan and mahogany logs from Indonesia and the Philippines. Recently, the supply situation has deteriorated and logs from Indonesia are becoming more expensive while their quality is declining.

The Tae Sung Lumber Company was established in 1936 and began to export in 1961. By 1972 its export of plywood reached \$40.5 million, ranking it as the second largest exporter of the commodity. The company's production is more diversified than Tong Myung, including pre-finished plywood, particle board, vinyl laminated plywood, methanol, and formalin. Its markets are also somewhat more diversified, including Europe and Australia as well as the US and Japan. The company has three plywood factories, one formalin and one methanol factory. It has seven offices overseas, four in countries which import plywood and three in countries which export logs. This simplifies marketing arrangements and gives the company a definite advantage over those which do not maintain offices abroad. The Korea Plywood Manufacturing Company was established in 1961 and reached an export value of \$15.8 million in 1972. It exports 90 percent of its production, almost all of which has been sent to the US. However, the manager mentions that the US had placed restrictions on the imports of plywood, which he hopes the Korean government will negotiate to remove. Both of the latter companies mention difficulties in securing raw materials. The entire industry depends completely on log imports from the Philippines, Indonesia, and East Malaysia and, as these countries place more restrictions on exports of logs, the supply situation will worsen. Most binding agents and secondary materials are obtained domestically, however. Approximately 80 percent of Korean plywood is shipped to American markets where the hardwood plywood is used for decorative purposes. The percentage share of plywood imported by the US from Korea has shown a steady increase. The main competitors with whom Korea contends are Japan, the Philippines, and Taiwan. Japan, formerly the biggest plywood supplier to the US, has experienced a sharp decline in exports since 1968, and other rivals have shown a gradual decrease or stagnation. It is believed that Korean plywood will continue to gain larger shares of the US market, and that US demand will increase steadily.

Taiwan

Taiwan is the second largest exporter of plywood among the countries of the Asian and Pacific region, with exports in 1971 amounting to \$95.3 million, an increase of 22 percent over 1970. The fast growth in this export-oriented industry has been encouraged by the government and has resulted in a series of expansions in existing plants and an increase in investment by new manufacturers. In 1970, 40 plywood factories were operating with a total production of 2,162 msf per year. Among these plants, four have over 100 msf per year capacity and six have total capacity ranging from 50 to 100 msf per year. This makes the industry much less centralized than in Korea. Of total output, 90 percent was for export, primarily to the US and Canada. With the weakening of the competitive position of Japanese-made plywood overseas, Taiwan's products (along with those of Korea and the Philippines) have found increasing sales in the US market and hence, the growing importance of this export. The plywood industry is one of several large export industries which has been built up in Taiwan based primarily on imported raw materials. However, owing to the insufficient world log supply and keen competition in the international market, Taiwan's industry is beginning to feel increased pressure on the raw material supply side.

Lee Chang Yung Lumber and Plywood Company was established in 1906 and is the largest plywood manufacturer in Taiwan. Exports in 1971 totalled \$(US) 12.8 million, equivalent to 97 percent of production. Besides unfinished and pre-finished plywood, the company produces woodworkings such as vinyl and embossed panelling, paper overlay plywood, particle board and door skins. It operates a chemical plant producing formalin, resin, laquer and paints, and it runs its own navigation company. Its major markets are the US, Canada, Australia, Europe and the Middle East. This well-established firm is feeling the pressure of increased competition accompanied by low prices, although world demand remains high. Another large exporter is Fu Shing Manufacturing and Lumber Company, which was established in 1948, and had plywood export sales of \$6.8 million in 1971. The company produces plywood, chipboard, and finished wood products such as parquet flooring, prefabricated building parts, sectional furniture and flush doors. About 98 percent of its production is exported, mainly to North America, Europe, Africa and Southeast Asia. Because of the diverse nature of its products, this company has been able to tap markets which other manufacturers of plywood have not been able to reach. Although Taiwan still ranks as the second largest exporter of plywood in the region, large firms have found it advantageous to move into production of wood workings such as hardboard for construction purposes.

poses. It is probable that demand from both developed and developing countries will be increasing for such products. In addition, the companies have begun producing their own raw materials (other than logs), such as resins, glues, and chemicals.

The Philippines

The first major plywood factory to be established in the Philippines was set up by the Santa Clara Lumber Company in 1946. In the 1950's and early 1960's, local production increased tremendously, partly due to the rich lauan log resources of the country. Plywood production rose from 81 msf in 1955 to a peak of 733 msf in 1966. Since 1966, however, production has declined, reaching a low of 496 msf in 1969 and rising slightly to 573 msf in 1970. This decline may have resulted from inadequate pre-investment studies, leading to overexpansion of the industry. A study of existing firms carried out in 1965 showed that plywood firms were already working below their rated capacity, and that their production was more than enough to meet the existing demand for their products. Even without additional firms going into the industry, the firm existing in 1965 should have been able to supply projected increases in demand. On the contrary, declining production has been accompanied by an increasing number of firms entering the industry, which reached 32 plywood factories and 15 veneer factories in 1971. The total rated capacity of the industry at present is 2,300 msf, approximately three times as much as demand would justify. In addition to declining exports, even local consumption has decreased, especially since 1968. Consumption fell from 298 msf of plywood in 1968 to 185 msf in 1969 and from 375 msf of veneer to 75 msf in 1969. Such a decline resulted from the slowdown in construction activities in 1969, which has continued to the present.

Plywood has been a major export of the Philippines since 1955, when exports reached \$2.0 million, and exports have consistently absorbed at least 65 percent of plywood production. Although growth was extremely rapid in the early years with exports totalling \$13 million in 1959, demand began to decline thereafter and the 1959 level was not reached again until 1963. Exports have stagnated since 1965, despite the continued steady growth in world demand. The unfavourable export situation is due to the country's dependence on the US market, increasing competition from Taiwan and Korea, and the small-scale dispersed nature of the industry. The major market for Philippine plywood is the USA which absorbs almost 95 percent of total Philippine exports. However, the Philippine share in the US market has been declining in favour of more efficient producers such as Korea and Taiwan. In 1970 Philippine exports to the US declined in value by 15 percent and in 1971 by 20 percent. Exports in 1971 amounted to \$23.8 million. This situation will probably deteriorate with the gradual removal of preferential tariff treatment for the Philippines and the expiration of the Laurel-Langley agreement in 1974. One of the major reasons for the unfavourable competitive position of the Philippines and its inability to tap vast potential markets other than the US is the dispersal of small mills and inadequate shipping facilities. The country has often failed to fulfil foreign orders because of the difficulty of obtaining freight space to accommodate and service pending orders on ships which call at many ports to get a full load. The Philippines shipped 260,000 tons of plywood in 1968 which originated from 13 ports. In some instances, double freight costs are incurred because finished products have to be transshipped from out-ports to regular ports of call of international vessels. At the same time, shipments from Korea come entirely from Pusan and those from Taiwan are shipped out of Kaohsiung. Furthermore, such difficulties are aggravated by the high freight rates imposed by conference lines on shipping plywood from the Philippines. The rates to the US from Japan, Korea, Taiwan, and Singapore are much lower due partly to the excellent port facilities in the latter countries. Another factor that makes Philippine prices higher than its competitors is the export tax on veneer core and sheets and plywood.

Although the industry is facing many problems, the Philippines should in the long run be the most successful exporter in the region due to one major factor — it has its own supplies of logs for raw materials. Its main competitors — Taiwan, Korea and Japan — are log importing countries, and yet their exports are priced lower than exports from the country of origin of the logs. The Philippines has traditionally been the major supplier of logs to all three of these countries, with exports

of logs totalling \$226 million worth in 1971. Generally, about 80 percent of Philippine logs exports have been directed to Japan in the past, but Japan's purchases fell by 20 percent in 1971. From a position of holding 51 percent of the Japanese market for logs, the Philippines now has a 28 percent share, while Indonesia has risen to a share of 40 percent. In the long-run this decrease in log exports is a positive development for the Philippines, since it would be more advantageous to process the raw materials domestically and export in the form of plywood or veneer. The government plans to ban the export of logs by 1976, through gradual reductions in 1973 to 1976. There should also be a corresponding 20 percent annual increase in the processing of logs into various wood products. If the industry were to consolidate itself and if the government were to grant forest concessions equitably, the plywood industry should be able to pull itself out of its glut. According to the six manufacturers interviewed, 1972 was a much better year for the Philippine plywood industry. Prices were increasing and markets other than the US were being found — Japan, Hong Kong, Australia, the EEC and Scandinavia. The situation in the world market is improving for Philippine firms, but the domestic situation in raw materials is deteriorating. Because of such large exports of lauan logs, the forests are becoming more scarce and more remote. In addition, insurgency in Mindanao, where the largest reserves of logs are to be found, has almost brought logging to a standstill in some areas. Although the long run potential for the industry is probably more promising in the Philippines than in its three biggest rival countries, shipping must be improved and the export of logs must be checked.

Malaysia and Singapore

As is the case in the Philippines, Malaysia has traditionally been a large supplier of logs to exporters of plywood, and has rich resources (mainly in East Malaysia) to supply its own industry. However, following complaints of local plywood manufacturers concerning inadequate supplies of raw materials, the government imposed a temporary ban on the export of 10 species of logs used for veneer in November 1972. In spite of Malaysia's rich timber resources, exports of plywood did not reach the \$US 1 million mark until 1965. Since that time exports have increased very rapidly, amounting to \$16 million in 1970 and \$20.5 million in 1971. The country now has 33 medium-scale plywood factories which produced approximately 451 msf in 1971, about 70 percent of total rated capacity. The industry exports 84 percent of its production, mainly to the UK. Malaysia is the third largest supplier of plywood to the UK, following Canada and Finland. The marketing situation for Malaysia is somewhat more favourable than the Philippines. Most important is the fact that Malaysia's exports are destined mainly for the UK and Europe, rather than the US. This situation is based primarily on tradition and thus it is unlikely that Malaysia will lose its market to countries such as Korea and Japan. Since Malaysia is not fighting too hard for the US market, the competition is not as severe. In addition, Malaysian freight rates to Europe are cheaper, especially if goods are shipped from Singapore, giving Malaysia a strong advantage over the Philippines. Finally, the main competitors for the UK market are Canada, Finland, and the USSR. All of these suppliers are producing softwood plywood, which is not really in direct competition with Malaysian hardwoods. The two products are generally used for different purposes, and the demand situation in each is independent. At present the industry in Malaysia is producing below full capacity, mainly because of keen competition from foreigners for supplies of logs from East Malaysia. However, with the export ban on certain types of logs, the domestic situation has improved and production should increase. Other than raw material procurement, the industry is facing no major problems and is thought to have good potential.

Singapore's industry is closely related to that of Malaysia, and several firms in Singapore have investment interests in Malaysia. Export markets are essentially the same, and the industry has quite good potential. At the present time there are eight large manufacturers of plywood and other wooden structural materials (blockboard, prefabricated housing, parquet flooring, etc.). It is necessary for Singapore to import its raw material supplies of timber, but this is relatively easy due to Singapore's proximity to Malaysia and Indonesia. The industry is efficient and growing rapidly and only limited by a shortage of manpower. At present Singapore is the only Southeast Asian country in which the domestic price is generally higher than the export price. In spite of this situation, Singapore exports about 85 percent of its production. One of the largest manufacturers of plywood in Singapore is a joint-venture with the Japanese which was established in 1964.

Its exports have been growing very rapidly in recent years, increasing from \$1.6 million in 1969 to \$2.8 million in 1970 and \$6.8 million in 1971. Although the firm has Japanese investment and exports some veneer to Japan, its major markets are the EEC, the UK, and Africa. The firm exports small quantities to Australia, but mentions that the latter imposes a tariff of over 50 percent on imports of veneer. A more specialized industry is that of parquet flooring. One of the major exporters in the industry was established in 1962 and is 100 percent locally owned. In 1972, exports accounted for approximately 50 percent of production, amounting to \$500,000. The company uses mainly teak wood imported from Burma for its finished product. Exports are destined mainly for the UK, the EEC, the US, Australia and Japan. The export market is good for their high quality specialized product, and there is no glut on the market as may be the case with plywood.

Thailand

Thailand has hardly entered the export competition, with plywood exports amounting to only \$803,000 in 1971. Thailand's industry seems to be relatively disorganized and inefficient, probably partly because it is dominated by a state enterprise. There are now only two major plywood plants operating in Thailand, a third having closed down due to financial and managerial difficulties. The activities of the government-owned Thai Plywood Company (TPC) are split into five components: a plywood mill, a veneer factory, a sawmill for boards, a hardboard factory and a flush door factory, producing mainly for the domestic market. TPC obtains 39 percent of its raw materials from its own forest concessions, 20 percent from the Forest Industry Organization and the rest from private wood merchants. In 1967 a shortage of quality teak veneer logs made it difficult to produce export grade teak veneer or teak plywood, with the result that exports dropped from 120 tons in 1965 to only 15 tons in 1967. However, in 1968 TPC's exports rose to 43 tons and in 1970 to 1,517 tons of plywood worth \$154,000. Plywood exports for the company are expanding, but have started from a very low base, and domestic demand is increasing steadily. However, TPC's plywood is not price-competitive with any of the other countries discussed above. A better export for the company is hardboard, in which exports amounted to \$702,000 in 1972. Markets for their product are Thailand's neighbours: Indonesia, Hong Kong, Vietnam, Singapore, Malaysia and Pakistan. However, TPC is still not competitive in price with Australia, Japan, and China. Unless production costs can be lowered, export markets will be limited to close neighbouring countries. Of total sales of all products, TPC exported approximately 40 percent in 1972 [T1, pp. 52-3].

The Sri Maharaja Company also produces hardboard, as well as particle board and fibreboard. Although such products may still not be competitive internationally, they seem to have more promise than plywood in Thailand. The Sri Maharaja factory for hardboard was set up in 1968, and TPC's in 1969. Due to small domestic demand and uncompetitive prices both firms are working well below capacity. Both the latest Swedish wet processing method and the dry processing method of manufacturing hardboard are practiced in Thailand, the former by TPC and the latter by Sri Maharaja. The dry processing method is said to produce a denser and higher quality hardboard, and it is expected that Sri Maharaja's product will therefore take over some of the market, now catered for by the thinner types of shaving board. Two companies are now producing particle board, which is veneered and used for furniture, partitions and linings, often in low-cost housing. Sri Maharaja set up its plant to utilize waste wood from its sister factories. The company also operates a printing plant for the manufacture of printed panels. The other particle-board manufacturer is Thai Chipboard, which produces the board from waste products of numerous nearby sawmills and its own veneer mill. Thai Chipboard used to have to import sliced teak and Maranti veneer from Singapore because of the shortage of good quality veneer logs in Thailand. However, the company has now established a veneer mill and its own furniture workshop, and it will eventually be a self-contained plant for the production of a wide range of low cost housing components. Although these two companies are exporting small amounts of particle board to neighbouring countries, they are not price-competitive with Korea and Taiwan.

Thailand's situation is somewhat better for veneer wood in that there is a large overseas demand for the product and about 80 percent of Thailand's veneer woods are made for export. Teak veneer is machine cut into wafer-thin layers which are suitable as facings for inferior woods and other materials. Demand for high-class veneer is strong in the European market and for rotary cut veneer

Table 4.3: Exports and imports of plywood and veneered panels

	1969-71, \$(US)'000					
	Exports			Imports		
	1969	1970	1971	1969	1970	1971
Australia	563	570	824	5,342	5,973	7,245
Japan	92,748	74,573	85,925	5,911	30,127	7,839
New Zealand	180	508	559	266	241	328
Korea	79,230	91,868	126,823	130	262	—
Taiwan	63,557	77,889	95,261	3	17	1
Malaysia	11,594	15,953	20,531	665	848	550
Philippines	30,428	29,744	23,805	4	129	1
Thailand	90	248	803	616	333	79

in the US and Japanese markets. The Board of Investment has in recent years granted promotional privileges to eight manufacturers mainly with a view to the export trade. Thai Chipboard's promotion is accompanied by a provision that it must export 90 percent of its production. According to the manager of Thai Chipboard, there is actually enough good quality teak available for veneer but distribution channels and concessions controlled by the forestry department are not well-organized. Controls over illegal logging are not enforced, forests have been denuded in many areas of Northern Thailand, and there have been few efforts at replanting. Chances are that the raw material situation will not improve in the near future and that high quality teak will not be available for so many new export-oriented factories. However, other woods such as yang (lauan) may be used as a low-quality substitute for teak.

Textiles

The textile industry is one of the major industries in all the countries included in this survey — Japan, Taiwan, Korea, Thailand, Malaysia, Singapore and the Philippines. In the first three countries, it is a major export industry as well as a large domestic industry. In Thailand, the Philippines and Malaysia, textiles constitute mainly an import substitution industry, but exports are just beginning and should be expanding in future. Singapore has a large domestic industry, an expanding domestic export industry, and large entrepot trade in textiles and garments. The main feature of the textile industry over the past 20 years is the amazing growth in the world-wide importance of synthetic fibres such as nylons, polyester and acrylics. Synthetic fibres can be divided into two categories — artificial fibres produced from cellulose or proteins and synthetic fibres made from synthetic polymers, derived chiefly from coal and oil. The first group includes rayon and acetate produced from a cellulose base, as well as fibres produced from a protein base such as casein. The second category refers to wholly synthetic fibres, manufactured by a process called polymerization. This category includes three major types of fibres: polyamides or nylon, made from sebasic acid (a product of castor oil); acrylic, such as orlon or acrylon, produced from oil refining and a carbonization process; and polyester, which is derived from petrochemicals and marketed under terylene, dacron and kodel. At present only Japan and Taiwan have highly-developed synthetic textile industries, but Korea and Singapore are encouraging the expansion of the industry. Malaysia, the Philippines and Thailand are producing synthetic fabrics from imported fibres with foreign financial and technical assistance. When these three countries develop domestic petrochemical industries, they will be able to produce the whole range of synthetic fibres. It is probable that future demand will continue to expand for synthetic fibre products, while demand for natural fibres such as cotton will remain stationary.

Japan

Textile manufacturing was the first modern industry to develop in Japan, holding the leading position in the economy in terms of scale, output and exports before World War II. As the industry developed in pre-war days, the main type of fibre changed from silk to cotton and then to chemical

fibres. Although the war reduced the industry's capacity to less than one-third of the pre-war peak, after the war the manufacture of fibres and textiles was given priority in the development of a consumer economy. It was not until 1954 that production of chemical fibres exceeded the pre-war level, as a result of increased demand during the Korean war. Production of cotton yarn and silk never regained the pre-war level, but production of synthetic fibres has sharply increased since 1950, accompanied by a slowdown in the production of natural fibres. [J1, pp. 141-50]. In contrast to the remarkably rapid pace at which chemical and heavy industries have been expanding, the textile industry has shown a less impressive growth. As a result, the share of textile production in the nation's industrial production has declined. In 1951, for example, textiles accounted for 25.7 percent of Japan's entire shipments of manufactured goods, 25.9 percent of the work force and 45.3 percent of total manufactured export value. By 1970, these figures had dropped to 7.9 percent, 13.1 percent, and 12.2 percent respectively.

Growth and development of the synthetic fibre industry.— Production of synthetic fibres picked up momentum around 1950, and a five-year synthetic fibre development program was launched in 1953, giving impetus to the manufacture of nylon. Positive assistance was given to the synthetic fibre industry as a result of the government's basic policy of developing heavy and chemical industries, and the need to curb imports to improve the balance of payments. At that time most textile imports were raw cotton and wool, and development of a synthetic fibre industry was seen as a way of economizing on these imports. In addition, increased production of synthetic fibres provided a basis for the development of the petrochemical industry, and improved the structure of the textile industry in which cotton had been the mainstay product. It was after 1958, when the Japanese economy was entering an era of expansion following reconstruction, that the synthetic fibre industry showed rapid growth. In the process consumer demand was expanding at an unprecedented rate, supported by increased production of home appliances and synthetic textile fibres. This prompted producers of chemical fibres and cotton spinners to go into the field of synthetic fibres. As a result, synthetic fibre output jumped by 30.9 percent in 1963 over 1962 and 43.1 percent in 1964. However, by the end of 1964 a recession had developed as a result of surplus production, and the industry began to discourage excessive investment. In 1964, the new textile legislation came into effect in order to curtail production in chemical and synthetic fibres by putting curbs on equipment purchases and to stabilize supply and demand. In 1965, the Temporary Act on Structural Reorganization of Specified Textile Industries was put into effect. This Act made it possible to effect disposal of surplus spinning machines, to modernize equipment, and to maintain the scale of the industry at a proper level. At the end of 1970 the new textile legislation expired, having achieved its objective for all practical purposes, while controls on spinning equipment were lifted for the first time in 33 years. In 1970, Japan produced 1,540,000 tons of man-made fibres. Of this total, synthetic fibres accounted for 66.7 percent and rayon acetate for 33.3 percent. The share of synthetic fibres in the entire man-made fibre production has been steadily mounting in post-war years. Japan is the second largest man-made fibre manufacturer in the world — next only to the United States — and is well ahead of third- and fourth-ranking West Germany and the Soviet Union.

Exports and imports of textile products.— Since 1965, the world demand for textiles has shifted increasingly to synthetic fibre textiles. As a result, Japanese exports of synthetic fibres and textiles have sharply increased, notably to the US, and also to Korea, Taiwan and other Southeast Asian countries. Exports to Southeast Asia centred on raw materials (synthetic fibres) for use by processing mills in the region. Sales to advanced nations consists mainly of made-up goods of medium and high class. However, the share of textiles in Japan's total exports has been decreasing. Japan's exports of cotton goods suffered a setback as early as 1955, when moves to restrict imports of these products gained momentum in the United States. In 1956 the US-Japan bilateral trade agreement concerning trade in cotton textiles was signed, and was revised as a long-term agreement in 1963. These restraints on imports into the US combined with the intensified competition from developing nations have slowed up the pace of cotton textile exports in recent years. Therefore, the rise in Japan's textile exports is due largely to increased sales of synthetic textiles. American moves to impose package restrictions on Japanese exports of woolen and man-

made textiles and fibres originated from President R.M. Nixon's elected pledge to southern textile manufacturers in 1969, and jolted the Japanese textile industry. The textile issue was not resolved even by the Japanese declaration of voluntary restraint. Therefore, in October 1971, a government-level Japanese-US textile agreement was signed to put an end to the dispute. As a result, tight controls were clamped on Japan's exports of woolen and man-made fibres and textiles, as well as cotton textiles. In addition to stringent international restrictions surrounding the textile industry, the Yen revaluations are making the situation still more difficult for the industry. Another difficulty facing Japan's industry is the mounting competition from producers in developing countries. Developing countries buy raw materials from Japan for fabrics and made-up goods, and convert them into finished textile products with cheap labour. Japanese manufacturers have responded to this problem by setting up their own plants in the developing countries.

On the other hand, imports of textile articles (fibres, filaments and yarns, fabrics and garments) expanded by 57 percent in 1970 and by 22 percent in 1971. Total imports amounted to \$383 million in 1971 and \$700 million in 1972. It is expected that total imports of textile products will reach \$1,400 million in 1973, and that imports of textiles will surpass exports for the first time. Japan has now become the second largest importer of textile products in the world, following the United States. In 1971, imports from developing countries accounted for 56.3 percent (51.5 percent in 1970) of total textile exports while imports from other industrialized nations, mainly Western Europe, accounted for the remaining 43.7 percent. In general imports from Southeast and East Asian countries are characterized by middle- and low-class textiles while those from Western Europe are marked by high-class textiles and other secondary processed goods. The Japanese market for Southeast Asian exports is concentrated mainly on speciality products (Thai silk, Malaysian and Indonesian batik, and Manila hemp) and on those commodities which are not easily influenced by fashion (undergarments, stockings and pajamas). [J4, No. 2]. The rising quantity of imports into Japan results from the rapid progress made in recent years by textile industries in developing countries and also from the changing circumstances in the Japanese economy. The most prominent advances into the Japanese markets have been made by Korea, Taiwan and Hong Kong where the textile industry has been developing remarkably. Imports from these three countries have been increasing in nearly all textile categories including synthetic fabrics and made-up garments. In this respect, it is important to note that Japan introduced preferential tariff rates for developing countries in August 1971. As a natural consequence, it is to be expected that this will greatly help promote future imports of textiles from developing countries.

At present the Japanese textile industry is facing problems at home and abroad, and the government and the industry are considering structural changes in the economy, and possible post-textile industries. Although leaders in the industry do not expect it to fold, as a whole the trend is to let machinery become obsolete. New spinning machines are being sent to developing countries where the Japanese have invested. It is hoped within the industry that efforts will be stepped up to produce more high value added products and to concentrate on processing operations rather than raw material production. These efforts toward structural improvement will certainly increase the international competitiveness of the Japanese textile industry.

Taiwan

Before World War II, when Taiwan was a Japanese colony, its textile industry was limited to a few small cotton weaving mills, and most of domestic demand for textiles was met by imports from Japan. When Chinese entrepreneurs came from Mainland China to Taiwan in 1949, they brought with them much knowledge and experience in the textile industry. Thus, with strong encouragement from the government, textile mills were set up during the 1950's by entrepreneurs from Shanghai and Canton to meet domestic textile needs in Taiwan. Average annual growth in production was tremendous during the early years, reaching 167.5 percent per year in 1954-6 and 61.2 percent during 1957-60. During the 1960's, growth remained high, but levelled off to an average annual rate of about 30 percent. The textile industry has been able to meet not only domestic demand, but has also been able to export abundant amounts of textile products to international markets since 1959. Textile products have remained the number one export item for

Taiwan since 1965, totalling \$(US)720 million in 1971, about 33.6 percent of total exports. The export pattern has followed the example of Japan, with exports in the early 1960's consisting mainly of low-priced fabrics and garments to the US market. By the late 1960's, Taiwan was producing good quality synthetic fibres and garments for export throughout the world.

Taiwan's synthetic fibre industry is only about 12 years old, but its growth so far has been spectacular. The major stimulant for growth has been a booming export market especially for knitted wear. In 1961 exports of synthetic fibre and fabric products had a value of only \$(US) 4.5 million or 2.36 percent of Taiwan's total exports. By 1972, however, exports of these products had reached \$540 million or 18 percent of total exports. Of total exports of synthetic fibre products, yarn accounted for 12 percent, woven fabrics for 14 percent, and garments made from synthetic textiles for 74 percent. To meet the demand of the expanding market, a number of producers are programming expansion. Developments will occur on several fronts and will have important effects on both the synthetic fibre industry and other petrochemical-using industries [C6, May, September and October 1971]. The government's ambition for the petrochemical industry is to establish a chain of primary and secondary facilities to produce essential raw materials and intermediate goods. In turn, these will be converted into resins, plastics, solvents, synthetic fibres and numerous other end products. Because of the huge investment needed for petrochemicals, this industry will be reserved almost exclusively for the government sector, under the China Petrochemical Industry Development Corp., a subsidiary of the Chinese Petroleum Corp. However, the production of fibres and other products will be left to private enterprise. One of the main private participants in these major developments is the Formosa Plastics Group, which started plastics production in Taiwan in 1954 as the Formosa Plastics Corporation. Included in the group is the Nan Ya Plastics Corporation (NPC) which was set up in 1958 and which produces, among other things, polyester staple, polyester textured filament and polyester knitting fabrics. Even in 1972, total local production for polyester staple and filament was much lower than domestic demand, and thus all of the products of the fibre division of NPC are sold domestically.

Another firm which was added to the plastics group in 1965 is the Formosa Chemicals and Fibre Corporation (FCFC). Besides producing cotton yarn and fabric, this firm has established a fully-integrated rayon plant to produce rayon products for foreign and domestic markets. The firm is able to use indigenous hardwood for the manufacture of rayon grade pulp and continues processing through the production of rayon staple and the conversion of staple into textiles. Rayon products are sold to garment manufacturers in Taiwan and to overseas buyers in Japan, Africa, Southeast Asia and Europe. In 1971 FCFC exported 40 percent of its total production, amounting to \$12.75 million. The government vigorously encouraged the forestry industry and the petrochemical industry to ensure the establishment of this integrated rayon fibre complex, which contributes to the production of many essential raw materials and intermediate products for other firms in Taiwan. Such developments augur well for continued growth in production and exports of textiles in Taiwan. However, the US has consistently absorbed approximately 50 percent of Taiwan's textile exports, while Canada, Hong Kong, Japan, Germany, and Southeast Asia are other major markets. The US imposed a quota on non-cotton goods from Taiwan in October 1971, including garments and processed goods as well as fabrics. Exports to the US of non-cotton textiles are now limited to a growth of 7.5 percent per year for 5 years starting in 1971. This is bound to lead to a slackening of exports to the US, considering that the 1971 growth target to that market was 60 percent. Firms producing knitwear have been hardest hit, due to their spectacular growth in the months preceding October 1971. The government is assisting manufacturers to find outlets for their products in markets such as Japan, Southeast Asia and Europe, in order to lessen their dependence on the US market.

Korea

Cotton textiles.— The cotton textile industry in Korea was established with Japanese capital in 1917, but much of the demand for textiles was met by Japanese imports before World War II. During World War II, the bombing of Japan by Allied Forces caused numerous cotton textile facilities to be moved to Korea, a comparatively safe area. Following the Korean War, when most plant facilities were destroyed, the industry was rehabilitated with the help of foreign aid and through

government capital-investment. By the end of 1955 production had surpassed the 1945 level, and in subsequent years the industry gained self-sufficiency and a surplus for export [K1, pp. 92-6]. The industry started exporting cotton textiles in 1957 with shipments of cloth to the US and Hong Kong. Ever since that time, cotton fabric products and markets have been diversified and export showed a sharp increase in 1963, exceeding \$10 million in 1964. Restrictions on imports of cotton goods into the US and the UK acted as an inducement for the industry to open up new markets and to develop new products ranging from coarse fabrics such as sheeting, duck, and drill to finer fabrics such as shirting and poplin. With the enlargement of exports the government affiliated itself with the long-term GATT agreement on 31 December 1964 to ensure fair treatment on the international market. From 1968 to 1972 the export of cotton fabrics increased by an average of 28 percent per year, mainly due to the discovery of new markets in African countries such as Nigeria, the Ivory Coast, and South Africa. At present chief buyers are the USA, Hong Kong, the UK, Africa, Japan, the Netherlands, and Germany. Following the very high growth rates of over 40 percent per year in 1969 and 1970, exports began to slacken in 1971 and 1972. Total exports of cotton fabrics reached \$34.8 million in 1972, a 12 percent increase over 1971. Demand for raw cotton is still supplied almost entirely from imports, 96 percent of which come from the US.

One large exporter of cotton textiles in Korea is the Pang Rim Spinning Company which was established in 1962 and is a joint venture with Panbon Spinning Company of Japan. The company's exports of cotton fabrics have increased rapidly from \$9.8 million in 1969 to \$16.3 million in 1972, accounting for 80 percent of production. Major markets for the firm's products are the US, Japan, and Hong Kong, although it exports to more than 20 countries. Almost all the raw materials, mainly raw cotton and some polyester fibre, are imported from the US and Japan. The only problems such producers of cotton textiles in Korea are facing at the present moment are delayed deliveries of raw materials and a world shortage of cotton. The world market continues to be good for this product. In addition to cotton textiles, woollen textiles from Korea have found good markets, especially in the US, which can absorb 84 percent of Korea's exports of woollen textiles. Korean woollen textiles are gaining popularity among Middle and Near Eastern countries such as Iran and Saudi Arabia.

Synthetic fabrics.— The synthetic textile industry had its start in 1953 when nylon yarn was successfully manufactured from imported raw materials. In 1959, with raw materials from polyamide, P.V.A., viscose, and rayon fibres supplied partly by domestic plants, the industry began producing on a large scale in order to cater to world markets. As a result of intensive market efforts, exports of textile products rose from \$72 million in 1966 to \$526 million in 1972, with the share of synthetic fabrics in total fabric production rising from 11.6 percent to 45 percent over the same period. Such rapid increases are partly a result of the government's designation of the industry as one of the major export-oriented industries in 1967, the beginning of the Second Development Plan. By 1972, a total of seven petrochemical plants were completed in Korea at the Ulsan industrial complex. These plants are producing raw materials for synthetic fibres which had been imported into Korea in large quantities through 1971. One of the largest consumers of such raw materials is Korea Polyester which began operations in March 1971. This firm, a pioneer in synthetic fibre manufacturing, is a joint-venture with Toray Industries and Mitsui and Company, Ltd. of Japan, which have contributed the most up-to-date machinery and techniques. Korea Polyester already is planning to expand its production capacity in polyester filament yarn staple fibre to 100 metric tons a day and in nylon filament yarn staple to 50 metric tons per day in addition to expanding weaving-knitting, dyeing-finishing and garment production facilities.

The Sun Kyong Textile Co., one of the leading firms in Korea, is to begin construction of one of the nation's biggest polyester fibre plants in 1973, which will have a daily production capacity of 100 tons. This plant will be established in a joint venture arrangement with Teijin Textiles of Japan. In addition, the firm plans to establish a spinning and weaving plant, which will have the capacity to process 40 per cent of the polyester fibre for the local market, considerably lessening dependence of the industry on imported fabrics. In addition, construction work began in 1973 on the establishment of three new petrochemical plants and the expansion of four existing plants

in the Ulsan Petrochemical Complex. Such expansion will help further Korea's self-sufficiency in fibre production and contribute to a saving of foreign exchange. As late as 1971 Korea had to import \$55.6 million worth of synthetic fabrics in order to supply the blossoming garment industry. Although the import value of such fabrics decreased by 15.6 percent in 1972, the import of synthetic fibres was still on the increase. Synthetic woolen fabrics, such as wool terylene and wool teteron, are being produced for export to tropical countries in Southeast Asia and Africa. Raw materials for producing woolen products in the past were limited to natural wool, but now this is mixed with such synthetic fibres as acrylic, polyester and viscose staple fibres. As these materials are not yet produced in sufficient quantity in Korea, almost all of them are dependent on imports. To conform to the preferences of the world market, a wide variety of products has been developed, including nylon, taffeta, satin; fancy brocade and other nylon cloth, and polyester crepon. The biggest export market for these products is Hong Kong followed by the US. Other markets include Thailand, Canada, Africa and Australia.

Singapore

In 1970, textiles constituted the second most important industry in Singapore in terms of employment, accounting for 13.5 percent of the labour-force in manufacturing. At present there are approximately 300 textile and garment factories employing over 30,000 workers. However, since Singapore has become a labour-short economy, the industry has found it difficult to find a sufficient number of workers to produce at full capacity. The manager of the Garment Association of Singapore estimates that the textile industry could absorb 50,000 workers without expanding the present number of plants. Much of the needed labour is now brought over from Malaysia each day to work in the textile factories of Singapore. Exports of textiles and garments were comparatively insignificant until 1968, when the government's industrialization drive began to show results in the external trade account. The labour-intensive industries which were encouraged during the mid-1960's, such as textiles and wood products, had a growth rate in exports averaging 33 percent during 1968-1970. In 1970 total domestic exports of textiles and garments had reached \$US 40 million, and by 1971 had climbed to \$50 million. Total exports of the industry reached \$72 million in 1972, an increase of 46 percent over 1971. In addition, the entrepot trade account showed re-exports of imported garments and fabrics amounting to \$90.7 million in 1970. In spite of the generally good export performance, Singapore has consistently been unable to fulfill the quotas on cotton textiles granted to it from the US, the UK, and Canada. There are now five spinning firms in Singapore which are producing yarn from imported synthetic fibres and raw cotton. According to the manager of one firm, there is a shortage of yarn in the export market of Southeast Asia now, and thus most of his production is sent to Malaysia, Indonesia, Vietnam, Hong Kong and Australasia. In 1974 the firm will set up a weaving factory to utilize the high quality yarn which they are now exporting.

Malaysia

The textile industry in Malaysia is similar to that in Singapore, being composed mainly of firms with foreign investment from Hong Kong, Japan or Singapore. Many of the large manufacturers in the textile industry have a vertical structure, including spinning, weaving, and garment factories. Exports of fabrics consist mainly of grey finished cotton fabric which is used for the manufacture of printed fabrics and garments in developed countries. Malaysia and Thailand have recently become important sources of this product because of their low prices and relatively good quality. The largest exporter of fabrics is Malayan Weaving Mills, which was founded in 1958 with 50 percent of its investment financed from Japan and Hong Kong. The firm receives technical assistance from Umitska and Mitsui of Japan. The head office of the company moved from Singapore to Malaysia in 1965, although there is still a plant in Singapore which produces pillowcases and towels. The firm has a vertical structure and is spinning and weaving plain cotton, jeans, drills, satin and dobby. It also produces ladies' undergarments from cotton and synthetic fabrics, as well as jeans for outer wear. In its early years of operation, Malayan Weaving mills was producing entirely for the domestic market. However, the manager says that the high quality of Singapore-Malaysian products was recognized in Europe, causing buyers to come to Malaysia and inquire. Malayan Weaving has concentrated its export efforts on grey cotton fabric for the last few years. About 30-40 percent of its production of grey cotton is exported annually amounting

to about \$4 million per year, a large portion of Malaysia's total exports of cotton fabrics. Major export markets are the US, the UK, Japan, Europe, and Australasia. Malaysia's main competitors for exports of this commodity are Pakistan, China and India which offer extremely low prices for the product. However, the quality of the Malaysia material keeps it in the competition. Since Malayan Weaving has been the largest exporter of fabrics in the past, it has received the biggest portion of the US quota on fabrics, and can increase its exports to the US by 5 percent per year for the first five years of the quota. The manager says that the quota is very small and can easily be filled by two weaving mills. He feels that the Malaysian government should make every effort to increase Malaysia's share of the quota. At present the quota for garments is so limited that Malayan Weaving received no share at all. Its exports of garments are still very small and are sent to non-quota countries only. As far as fabrics and piece goods are concerned, Malaysia's exports will probably be limited to grey finished cotton until the synthetics industry is expanded.

Thailand

The textile industry in Thailand now accounts for approximately 12 percent of value-added in the manufacturing sector, and is currently the fastest growing industry in the country. The textile industry includes fibre spinning and pressing; spinning and weaving of cotton and synthetic fibres; manufacture of apparel and other made-up textile goods, gunny bag production and carpet manufacture. [T1 and T9]. The Thai textile industry is still very much dominated by cotton. The Thai Textile Manufacturer's Association estimates that cotton accounts for 72 percent of current production. During the early 1950's annual consumption of raw cotton fibre by the then small textile industry averaged about 8,000 tons, all of which was locally grown. Cotton fibre consumption is now in the region of 60,000 tons, and demand is climbing to 90,000 tons. Since 1957 there has been a shortage of raw cotton production in the country, mainly due to crop damage from insects. Cotton grows well in Thailand if properly cared for, and there is an obvious need for the government to encourage cotton growing and to provide farmers with technical assistance. In 1970 and 1971 Thailand had to import 40,000 tons and 48,000 tons respectively of uncombed cotton. In 1971, the home grown crop accounted for about 35 percent of total domestic consumption, but in 1972 it slumped to around 25 percent and this year it will most certainly be less. Cotton production has been decreasing, while import prices have been rising rapidly. A global shortage doubled the cost of raw cotton in the first half of 1973.

Less than 25 percent of natural fibre fabrics are now imported, since most cotton fabrics can be produced domestically. According to the available data, the cotton industry consists of 334 mills, of which two are state-owned, while 27 belong to major textile companies which are beginning to undertake all processes from spinning to weaving, dyeing, printing, and finishing. In addition there are an estimated 4,300 very small weaving mills, of which only 100 use power looms. While production of cotton fabrics was increasing at an average annual rate of 10 percent from 1966-72, consumption was increasing at only 6 percent. Thus, it is thought that the limits of import substitution in cotton fabrics have been reached in Thailand. The most dynamic growth area in the industry is synthetic fibres. Thailand only started manufacturing man-made fibres in 1964 when the first Japanese-backed plant was set up, but since then demand has been growing at 19 percent per year. This growing demand for synthetic fabrics has kept the textile industry expanding, with many new entrepreneurs entering the field. The modern cotton and synthetic fibre industries are generally foreign-owned or are joint-ventures between Thai and foreign businessmen. In fact, Japanese investors control about half the industry and completely dominate the manufacture of synthetic cloth. At least 23 of the large textile manufacturing concerns are Thai-Japanese investments in which in most cases, the Japanese hold a majority share.

Currently there are four man-made fibre manufacturers producing polyester fibre — Thai Teteron, Toray Nylon Thai, Thai Teijin Polyester and the Thai Filament Textile Company. However, these plants have been able to fulfill only about 40 percent of demand. Manufacturers of polyester blended fabrics include at least eight major companies, most of which have large Japanese investment shares. Imports of synthetic fibre fabrics remain high, but imports have been declining rapidly due to the tremendous growth in domestic production, amounting to 145 percent in 1970, 245 percent in 1971 and 44 percent in 1972. Production of synthetic fibres in 1972 reached 223

million square yards or almost half as large as production of natural fibres. Still, almost \$50 million worth of man-made fibres, yarns and fabrics were imported in 1972, against only \$11.8 million in exports. The gap is closing, however, and the Board of Investment in June 1973 approved three more synthetic fibre plants to come into operation by 1974. One is a Thai-French joint-venture valued at \$40 million and another is a joint-venture between Thai Chemical Fibres Company and Zimmer AG of Germany, valued at \$20 million. However, it is unlikely that self-sufficiency will be achieved until the massive Thai-Japanese petrochemical plant begins operations, probably in 1977. This will also reduce imports of dyestuffs which last year stood at \$20 million. [T10,2 August 1973].

The export situation in 1973 for Thai cotton and synthetic fabrics seems greatly improved. In 1971, Thailand received a quota of only 7.5 million square yards from the US, while the country had a surplus of approximately 120 million square yards available for export. Much of the surplus could not be exported in that year due to high prices resulting from raw material import duties and the high cost of electricity, making Thailand uncompetitive with East and South Asia. In an effort to lower export prices and to prepare for possible declining profits on the domestic market, Thai manufacturers applied to the government to help them reduce production costs in 1971. The Thai Textile Association requested that the government reduce their electricity bills, which are very high in modern factories using automatic spindles and looms. Although the government did lower electricity costs somewhat, the cost per kilowatt hour is still much higher than in Taiwan. In addition, the manufacturers have requested that the government exempt them from taxes on imported raw materials and other taxes on inputs. Although this request has been granted in theory, the textile manufacturers still have difficulty obtaining refunds on import duties. Nevertheless, Thai manufacturers are beginning to be price-competitive with neighbouring countries, and new markets are opening up. In March 1972 US increased Thailand's quota to 15 million square yards per year, including an annual increase of 5 percent per year for five years. Besides the higher US quota, Japan has current orders worth \$10.8 million for the year. In early 1973, the European Economic Community abolished all import tariffs on Thai textiles which will facilitate penetration of that market by cotton goods. There is also considerable export potential among other developing countries such as Indonesia, Laos, Singapore and Hong Kong. In the first quarter of 1973, trade in cotton fabrics registered a surplus (of \$1.15 million) for the first time ever, which is a very encouraging sign.

The Philippines

Textile manufacturing in the Philippines, although already in existence during pre-Spanish times, really started with the establishment of the Philippine Cotton mills in 1930 and the National Development Company's Manila Mills in 1939. The textile industry was one of the first to be encouraged by the government in its industrialization program, but growth and development of the industry were interrupted during World War II. Even after the war, development of the industry was slow. Aside from the government-owned Manila Mills, which was the only integrated textile mill in operation, manufacturing was confined to areas in which minimum capital was required and the shortest time to realize a return on investment, such as in knitting and hosiery. Later, independent finishing and weaving mills started to appear, primarily for the same reasons which made knitting and hosiery attractive ventures. In 1957 government financial assistance and tax exemption privileges were granted only to firms with specific company plans for integration into the other phases of textile manufacturing. The textile firms started to integrate, either backward or forward, resulting in the formation of the fully integrated mills which now occupy a prominent position in the industry. [P9].

The local industry now consists of approximately 125 mills of all types. Of these, 15 are integrated textile mills which handle spinning, weaving, and finishing and another 17 are spinning and weaving or hosiery mills or thread and twine manufacturers. Most of the knitting and hosiery mills are operating as cottage industries in the provinces. With cotton still contributing the bulk of raw materials in 1969, it is estimated that the industry produced 148 million tons of cotton yarn, 324 million yards of grey cloth and 283 million yards of finished fabrics in 1969. The discrepancy between weaving and finishing production is due to sales of grey cloth for linings and for sugar and

Table 4.4: Exports of textile products from Japan, Taiwan and Korea,

1969-70; \$(US)'000 and percent

	Raw silk	Yarn' & thread	Cotton fabrics	Other ² fabrics	Garments	Total	Growth rate
Japan:	1969	2,792	45,087	221,312	742,871	451,354	1,463,416
	1970	1,288	47,445	187,613	806,338	462,354	1,505,038
	1971	276	46,072	195,518	878,786	467,873	1,588,525
	1972	—	—	231,113	928,144	429,282	1,588,539
Taiwan:	1969	—	27,312	51,357	12,965	106,780	198,414
	1970	—	34,534	70,386	21,712	186,120	312,752
	1971	—	36,923	83,226	39,486	336,372	496,007
	1972	—	64,416	81,356 ³	76,425	398,702	620,899
Korea:	1969	23,751	5,692	18,648	35,672	122,155	205,918
	1970	35,821	13,616	26,355	38,641	160,503	274,936
	1971	39,273	42,312	31,004	56,673	226,922	396,184
	1972	53,943	43,881	34,849	88,311	305,420	526,404

Notes: ¹Textile yarn. ²Incl. synthetics. ³Estimated

flour bags and other purposes where finishing is not necessary. These figures indicate that the industry was producing at approximately 84 percent of spinning capacity, 72 percent of weaving capacity and 49 percent of finishing capacity. By 1970, these estimates on capacity fell to approximately 79 percent, 67 percent and 47 percent respectively. Production decreased in all categories of cotton textiles in 1970, probably due to the abrupt increase in the production of knitted fabrics, which are cutting into the traditional market for woven fabrics. Also, low profitability and even losses encountered by several large integrated mills in 1969 may have induced them to cut down production of cotton piece goods. Actual production increased in 1971 but it did not regain the levels of 1969. It was not until 1969 that the Philippine textile industry got some much needed and long overdue assistance from the government's Board of Investments (BoI). The BoI studies showed that there was actually a shortage of textile materials and finished products, contrary to what had been believed. Accordingly, the BoI lifted textile manufacturing from the list of overcrowded industries, and allowed increased investment under liberal incentives. This was followed by a move to rationalize the industry and set up a sector development program for textiles, which would serve as a guide to local and foreign investors, local corporations, and government agencies. Such a move was long overdue, considering that the Philippines has long had an excess of imports over exports in textile products. The import value of fibres averaged about \$36 million a year from 1966 to 1970, while imports of fabrics averaged \$12.9 million per year over the same period. Largest imports were recorded in 1968, with fibres amounting to \$44.4 million and fabrics to \$18 million. Over the same five-year period, exports of all textile products averaged \$650,900 per year. However, exports fell from a high of \$1.3 million in 1966 to \$215,100 in 1969, but rose again to almost \$1 million in 1971. Philippine manufacturers generally lack the incentive to export since the local market continues to be much better than the export market. In addition, importers are reluctant to buy from manufacturers in the Philippines who are less reliable and more expensive than their counterparts in Korea and Taiwan.

Another important reason for this large trade deficit is that very few of the necessary raw materials, especially synthetics, for a large textile industry are available in the Philippines. There is still a lack of oil refining installations which are properly equipped to supply feedstocks for production of basic petrochemicals needed by the synthetic fibre industry. This is mainly due to the large capital investment which would be needed to set up the necessary facilities to produce the raw materials. Although there are no firms producing the raw materials for synthetic fibres, the Filipinas Synthetic Fibre Corporation was set up in late 1971 as a pioneer in the production of certain types of polyester staple fibre and filament yarn from imported polyester chips. The firm is

Table 4.5: Japanese imports of textile products from Pacific-Asia

					1971; \$(US)'000 and percent	
	Silk fabrics	Yarn and fabrics (man-made)	Cotton yarn	Cotton fabrics	Garments, knit & crochet	Outer garments, men
<i>from:</i>						
Hong Kong	1	313		1,824	18,934	1,887
Republic of Korea	30,844	6,630	13,285	3,582	14,307	1,004
China (Taiwan)	149	3,416	306	7,543	16,105	2,340
China (People's Rep.)	7,373	39		221	3,735	1,101
Malaysia				90	13	
Philippines		308		24	36	10
Singapore				28	455	15
Thailand	88	1		68	3	1
Indonesia				261	1	6
Total, 9 countries	38,455	10,707	13,591	13,641	53,589	6,364
Total, world	46,175	24,441	25,222	38,690	80,606	9,737
% of world total	83.3	43.8	53.9	35.3	66.5	65.4
	Outer garments, women	Under Garments, men	Under garments, women	Other textile products	Total	% of world total
<i>from:</i>						
Hong Kong	1,847	76	21	66	24,969	7.6
Republic of Korea	509	621	63	3,290	74,135	22.7
China (Taiwan)	750	3,295	325	1,688	35,770	10.9
China (People's Rep.)	5,414	426	423	1,678	20,410	6.2
Malaysia					103	0.0
Philippines	104			3	485	0.1
Singapore	30	1			529	0.2
Thailand	35	1			197	0.0
Indonesia	4	1			273	0.0
Total, 9 countries	6,341	4,421	832	6,725	156,871	
Total, world	11,553	4,529	930	85,356	327,239	
% of world total	54.9	97.6	89.4	7.9	47.9	

Source: JETRO, Trade Opportunities in Japan No. 2 (Textiles), July 1972, pp. 20-27.

a joint-venture with Teijin, Ltd. of Japan, which will hold 90 percent of the investment shares. Another firm has been approved by the Board of Investments to produce polyester staple fibre and filament yarn, using deryphthalic acid as a major raw material. This development represents a step in backward integration which should substantially decrease the dependence of the industry on imported synthetic fibres. At present, there are at least 12 mills which are producing polyester blend fabrics and which will be able to utilize the local production of these semi-finished products. Additional backward integration is also realized from domestic production of nylon filament yarn by Texfibre Corporation for use in the hosiery and knitting plants. Two other firms, the American Philippine Fibre Corporation and the Philippine Polyamide Industrial Corporation, have been approved by the BoI to set up additional nylon fibre capacity. The local production rayon is still under study by the BoI for possible inclusion in its annual Investment Priorities Plan as a preferred area of investment. Due to increased incentives offered by the government to the textile industry in 1971 and 1972, it is thought that the Philippines is well on its way to self-sufficiency in textiles. Once raw material production gets under way, the Philippines will have a good chance to capture some of the market supplied by Japan, Taiwan and Korea.

Table 4.6: Exports and imports of textile products in Malaysia, the Philippines and Thailand

						1969-71; \$(US)'000	
		Silk fabrics	Woven cotton, bleached	Fabrics of synthetic fibres	Textile clothing not knit	Clothing, knit	Total
Malaysia:	1969	X 1	1,151	215	689	164	2,219
		M 28	15,515	19,922	1,479	2,061	39,005
	1970	X 1	1,317	376	1,085	52	2,831
		M 45	15,539	22,927	1,615	1,564	41,690
	1971	X 2	4,382	n.a.	1,911	71	6,366 ¹
		M 40	15,979	n.a.	1,065	1,087	18,171 ¹
Philippines:	1969	X —	11	—	90	—	106
		M —	41	392	—	—	352
	1970	X —	318	—	95	4	417
		M 6	57	136	—	—	199
	1971	X —	132	—	166	64	362
		M —	18	199	—	—	217
Thailand:	1969	X 1,919	1,305	163	578	—	3,965
		M 75	9,253	27,397	367	2,929	40,021
	1970	X 1,644	780	1	556	38	3,019
		M 65	16,872	29,456	223	2,058	48,674
	1971	X 1,504	2,568	162	2,078	13	6,325
		M 41	9,103	17,148	68	1,239	27,599

Note: ¹Incomplete,

One of the major textile manufacturers in the country and one of the few firms that has spinning and weaving facilities for knitted and synthetic fabrics is Litton Mills. The firm was established in 1952 and is fully Filipino-owned, but it receives marketing assistance from the US, Canada, Japan and Hong Kong. The firm produces a wide range of fabrics from denims, twills and canvas to warpknit fabrics (nylon, polyester, triacetate) and circular knit fabrics (cotton, texturized polyester, acetate, nylon and blends). In addition, Litton produces garments such as ladies' lingerie, denim jackets and polo shirts. The firm exports approximately 20 percent of its production, amounting to \$10.4 million in 1972, to markets in North America, Japan and Hong Kong. Litton is still primarily concerned with the local market rather than the export market, since competition is less stiff and prices are higher at home. Continental Manufacturing is a medium-scale firm which was established in 1951 with 40 percent Japanese capital. The firm is producing acrylic knitwear and fabrics and acrylic yarn, and exporting 50 percent of its production. Vonnel yarn is the main export item, which earned \$2.6 million in 1971. Major markets include North America, Iran, Australia and Japan. Synthetic fibres are imported from Japan while made-up articles are obtained domestically.

Cement

The cement industry has generally been the first "real" industry to be established in the developing countries of Southeast and East Asia. In Thailand, Siam Cement was established in 1914 and in the Philippines Rizal Cement was established in the same year. The Japanese set up Taiwan's first cement factory in 1915, and Japan's own industry was established as far back as 1881. Throughout the first half of this century, domestic production in the developing countries of the area probably was adequate to supply the small domestic market demand. However, from 1945 to 1965 the countries of Southeast Asia began to feel an acute shortage of construction materials, especially cement. In the latter 1950's and throughout the 1960's these countries were experiencing rapid economic development with large infusions of US aid and World Bank loans for large infrastructure projects, resulting in such shortages. In 1966 and 1967 yearly import demand for ce-

ment reached well over 100,000 metric tons each in Thailand, the Philippines, Hong Kong, Indonesia, Vietnam, Singapore and even Korea (see Table 4.7). The demand was generally supplied by large imports of cement from Taiwan and Japan, whose exports to the rest of the world reached their peaks in 1966 and 1967. During 1965-69 Taiwan was averaging total exports of approximately 1 million metric tons a year, while Japan's exports averaged 2 million tons a year during the same period.

Trends in Korea and Southeast Asia

By the late 1960's a new trend was in evidence, emphasizing self-sufficiency in cement, especially in Korea, the Philippines, Thailand and Malaysia. Exports to these four countries from Japan and Taiwan declined to almost nothing by 1970 as they built up their home industries and even attained surpluses. Since the Philippines had experienced shortages of cement from 1945-65, they began promoting this import-substitution industry in the latter 1960's. The number of firms in that country increased rapidly from seven in 1965 to thirteen in 1969 and eighteen by 1972. While the domestic market remained favourable until 1969, the large number of firms entering the industry saturated the market by 1971. In 1971 the rated capacity of 18 firms in the Philippines reached 5.6 million metric tons but actual production was only 2.7 metric tons. By 1972 the rated capacity had increased to 6.9 million tons, much more than the domestic market could possibly absorb. In addition, there were 34 cement firms which were planning to start production. Although exports from the Philippines have been increasing rapidly since 1969, the industry was still working at less than 50 percent of capacity through 1972. However, during the first half of 1973, there was an upsurge in export demand, and the industry as a whole began working at 65 percent of full capacity. During the first six months of 1973 the value of exports reached \$6.6 million, an increase of 163 percent over the same period the previous year. This was a result not only of high foreign demand, but also of an increase in the f.o.b. price of cement from \$11 per metric ton in 1972 to \$22 a metric ton in 1973. In spite of present favorable circumstances, the industry is still suffering from excess capacity, with additional plants coming on stream. This will be partly relieved by a new plan which stipulates that certain firms produce only for the domestic market while others located close to the main ports will produce only for export. Since the domestic price is higher than the export price, the Cement Industry Authority was created by Presidential Decree No. 94 in January 1973 which aims to rationalise the cement industry in the Philippines. It will collect fees from those producing for the local market in order to subsidize firms producing only for export.

Korea's situation is not as extreme, although the country has also been experiencing very large surpluses. Following large imports from Japan of over 300,000 m.t. during 1966 and 1967, production was greatly increased to supply the domestic market. Presently there are seven cement companies with a total production of 7.8 million metric tons in 1972. By 1970 they were able to export 1 million m.t. of surplus, which increased to 1.4 million in 1972. The Korean manufacturers consider cement a good export item at the present time due to shortages in Japan, and all seven plants are planning to expand their capacity. They have projected that domestic demand will increase from 6.6 million m.t. in 1972 to 8.2 million in 1973, leaving little excess to supply foreign demand of an estimated 1.5 million m.t. This is an unusual situation for Korea which has had serious excess capacity problems for the last several years. It is to be hoped that when present expansion plans are completed, the industry will not repeat old mistakes. Both domestic and export prices have recently risen, and thus manufacturers are eager to take advantage of the present boom. However, if the present favourable situation is a temporary phenomenon, the industry may over-expand itself in the next few years.

Siam Cement Company held monopoly rights in Thailand until 1956, when Jalaprathan Cement, a Thai-US joint-venture was established to supply specific government projects. During the mid-1960's Thailand began to import large amounts of cement, and therefore the government granted expansion rights to both these companies. By 1970 both firms had new plants in operation, causing Thailand's rated capacity to reach 2.6 million metric tons, with a surplus of 107,000 m.t. In 1972 a third firm had started production and expansion of the other two was completed, bringing actual production to 3.4 million metric tons, of which 740,000 m.t. was exported. Thus, Thailand entered the ranks of those with excess capacity, and Siam Cement alone had enough excess to com-

mit itself to exports of 520,000 m.t. Although Thailand's rated capacity will rise to 3.6 million m.t. in 1973, there is little or no cement available for export. Many industry leaders urge capacity expansion, since the surplus gap between domestic demand and supply has decreased considerably. If expansion is allowed, the cement producers are asking for more export incentives in order to capture part of the Indochina market. Finally, in Malaysia the industry presently has a capacity of 1.4 million m.t. contributed by three firms which have been established relatively recently (since 1953). In 1971 West Malaysia exported 308,000 m.t. of cement abroad with an additional 110,000 to East Malaysia. Exports decreased to 150,000 m.t. in 1972 and are expected to decline further in 1973 due to a construction boom in both Malaysia and Singapore. Malaysia's largest firm, the Pan-Malaysian Cement Company, is a joint venture with Singapore. It is certain that Singapore and East Malaysia (including Brunei) will absorb all of Malaysia's excess production in 1973.

Trends in Taiwan and Japan

There are still large markets for cement in Southeast Asia, and the above four countries have been increasingly encroaching on the traditional markets of Taiwan and Japan suppliers — Hong Kong, Singapore, Vietnam and Indonesia. Taiwan's cement industry presently consists of 12 factories with a rated capacity in 1972 of 6.2 million metric tons. Their export sales increased in tremendous volume during 1963-68 due to the economic boom in Southeast Asia and the lack of competition other than Japan. Since 1969, Taiwan faces increasing competition from Korea, the Philippines and Thailand, all of whom used to import. Thus, the government is trying to control exports and Taiwan is looking for new markets. Although domestic sales have been increasing at a rapid rate, demand is not sufficient to absorb the yearly increase in domestic production.

Japan's situation changed radically in the first few months of 1973, promising new and expanding markets for Korea, Thailand, Taiwan and the Philippines. Japan seems to be pulling out of the export business altogether due to an overall domestic shortage of possibly 3 million tons in 1973. Domestic demand increased sharply in early 1973 and will probably reach 80 million tons, much higher than originally anticipated. This sharp increase has resulted from: (1) largely increased spending on public works by the government, especially on highways and railroads in the provinces; (2) increased private demand during the present construction boom and (3) warm weather in the North (Hokkaido) in January and February 1973 which caused higher than average construction levels. Since the Japanese cement industry has a present rated capacity of 70 million tons, it will be necessary for the cement companies to work above capacity to reach a possible 77 million m.t., a shortfall of 3 million tons. In the first half of 1973, Japan did not export at all, and it is probable that Japan will export only if it is necessary to honour old contracts. While exports averaged over 2 million m.t. per year in 1965-70, they declined to 1.0 million tons in 1972 and will probably amount to only 0.5 million or less in 1973. The Japanese are no longer interested in exports of cement, due to the low-priced bulky nature of the commodity and the revaluation of the yen. Japan is no longer price-competitive with excess-capacity countries such as Taiwan, Korea and the Philippines. Instead, the Japanese will probably continue to increase their investment in the industry in countries where local production cannot yet reach local demand (Indochina, Indonesia, Singapore). Thus, instead of exporting cheap cement, they will be able to export plant, machinery and expertise needed by the developing countries.

Market outlook

In reality none of the firms interviewed are really interested in exporting cement because domestic prices are in every case much higher than export prices. The large amounts of cement which have appeared in the past on the international market result from excess capacity and the necessity of running the machinery for cement constantly. It is often more expensive to shut down the machinery than it is to take a loss on certain transactions. As a result, cement has been a dumped-commodity on the international market. In addition, its bulky nature makes freight charges very high in comparison to the price of the commodity. For example, the international price for cement may be about \$US13 a metric ton while freight charges from the Philippines to Indonesia may be \$5 to 6 a metric ton. Producers must keep their f.o.b. prices extremely low to sell in such a competitive market.

Table 4.7: Cement exports from Japan and Taiwan

	1966	1967	1968	1969	1970	1971	1966-71; metric tons
<i>Exports from Japan</i>							
To: Thailand	185,082	81,907	19,828	—	—	—	
Malaysia	16,526	20,124	10,350	6,550	2,150	5,685	
Hong Kong	106,124	147,181	41,096	89,351	142,500	257,128	
Philippines	114,804	185,804	35,576	759	2,500	300	
Vietnam	123,352	315,300	201,267	116,564	102,290	4,913	
Korea	305,150	399,495	100,293	13,540	1,650	—	
Singapore	193,927	203,778	217,722	251,013	316,611	369,914	
Indonesia	55,007	92,208	157,608	361,828	487,681	478,787	
Australia	12,244	27,210	29,895	33,426	27,628	65,607	
Total	1,112,216	1,474,007	813,635	873,031	1,083,010	1,182,334	
<i>Exports from Taiwan</i> (with clinker exports in italic)							
To: Thailand	682	140,627	31,300	—	—	—	
	32,641	10,600	3,000	—	—	—	
Malaysia &	300		4,300	3,300	3,500	8,000	
Singapore	62,199	<i>133,467</i>	<i>133,592</i>	41,942	102,830	<i>135,963</i>	
Philippines	40,318	2,131	2,238	9,930	—	—	
Hong Kong	28,379	32,770	64,215	18,748	150,396	186,535	
	60,000	96,541	94,400	125,600	99,210		
Vietnam	1,015,290	858,566	548,226	433,590	533,006	646,919	
	60,701	20,800					
Korea		30,700					
Indonesia		11,614	77,964	42,580	13,000	14,200	
Australia	4,000	2,100					
Total	1,088,969	1,078,508	728,243	508,148	699,902	855,654	
	155,541	204,867	<i>233,133</i>	<i>136,342</i>	228,430	235,173	

The main markets in Asia have been and still are Hong Kong, Singapore, Indochina and Indonesia. Since Singapore and Hong Kong lack the raw materials necessary for cement, they generally import clinker, a semi-finished product which can be converted into cement by a very simple process. Taiwan, the Philippines, Korea and Thailand have a good and expanding market in clinker to these two city-states. Demand in Vietnam has been high due to wartime construction needs, but it will probably remain high as reconstruction begins. The USAID program allowed for procurement of certain materials (including cement) from developing countries who were signatories of the PD-31 agreement. During the 1960's Korea and Taiwan took full advantage of this marketing arrangement and supplied huge amounts of cement to Indochina. The Philippines began to supply increasing quantities during the early 1970's and Thailand signed the agreement in 1972. This market should remain a large one for many years. It is estimated that Vietnam will be 500,000 tons short of cement this year. The US delayed its procurement of cement until most suppliers had already made heavy commitments elsewhere. Again this has resulted from poor planning, and a lack of foresight. Finally, the market in Indonesia has been large due to large infrastructure projects which have been started a few years later than similar projects in Thailand, Malaysia and the Philippines. Development is coming rapidly to Indonesia and the country's construction needs are large. However, Indonesia is very rich in raw materials and it is quite probable that investors, both Indonesian and foreign (including Japanese), will begin to invest heavily in such ventures. Indonesia has already planned to set up two new plants, which will increase domestic capacity by 600,000 tons in 1975 and by 1.2 million metric tons by 1977. Hopefully, the situation of overcapacity prevailing in the Philippines will not happen in Indonesia if investment decisions are reasonable. In the short run, Indonesia should remain a good market for cement exports from Southeast and East Asia.

Table 4.8: Exports and imports of cement

1969-71; volume in metric tons; value in \$(US)'000

	1969		1970		1971	
	Volume	Value	Volume	Value	Volume	Value
<i>Exports of</i>						
Australia	1,637	41	10,272	264	13,808	378
Japan	2,057,783	29,129	2,112,028	29,429	2,321,722	31,884
New Zealand	1,605	45	838	25	419	14
Korea	290,970	3,276	450,865	4,442	1,007,880	10,587
Taiwan	551,224	9,160	747,989	11,923	970,171	14,012
Malaysia	328,089	2,953	369,446	3,198	308,142	4,007
Philippines	50,647	664	131,941	2,199	593,390	7,693
Vietnam	—	—	—	—	—	—
Thailand	95,613	1,852	157,539	4,235	252,361	4,799
<i>Imports by</i>						
Australia	67,893	1,511	77,479	1,639	110,922	2,136
Japan	1,915	563	2,775	861	1,879	994
New Zealand	2,903	113	3,502	127	3,983	176
Korea	15,726	379	967	89	712	187
Taiwan	6,036	129	6,424	219	450	115
Malaysia	3,373	823	2,825	704	n.a.	1,488
Philippines	10,036	220	1,200	46	606	23
Vietnam	468,934	7,513	n.a.	8,325	931,347	9,769
Thailand	39,768	1,026	22,508	640	4,860	262

Iron and steel bars and rods

The iron and steel bars and rods industry is presently in a state of flux, facing very unusual circumstances. Japan still dominates the industry in the Pacific Asian region — generally exercising its ability to control raw material supplies and international prices. However, for the first time in several years, there is a steel shortage in the region, resulting from many factors. Most important perhaps is the cut-back in steel production of large firms in Japan in late 1970, in response to worldwide overproduction and falling steel prices during the latter 1960's. In December 1971 the Japanese Fair Trade Commission authorized the large steel companies to form an anti-recession production cartel. By banding together, they could afford to cut back the production of certain firms and spread the losses among many. It was at that time that Nippon Steel merged with the Yawata Iron and Steel Company and the Fuji Iron and Steel Company. In January 1972, the Japanese steel industry formally announced its decision to extend the voluntary steel export restraint programme for the US for three more years, and it undertook a voluntary restraint programme for exports to the EEC countries. Exports to the US were limited to 6 million tons per year and to the EEC 1.2 million tons, in spite of much larger stocks available in Japan.

Present situation

However, in late 1972 the Japanese realized that their estimates of world demand for steel products had been much too low. Demand was increasing from all sources including Mainland China, the USSR, and developing countries in Asia. Total exports of steel products from Japan rose from \$3,100 million in 1970 to \$3,700 million in 1971 and \$4,000 million in 1972. With unexpected orders for 2 million tons from Mainland China in 1972, Asia became the major market for Japanese steel products, reaching 7 million tons in 1972 and surpassing US demand. The Japanese had estimated demand from developing countries to be very low and the high actual demand took the steel companies by surprise. Revised Japanese estimates place world demand for iron and steel products in 1973 at 660 million tons, at least 10 million tons greater than total world production this year. This situation has had mixed effects on the iron and steel industries in East and

Southeast Asia. Iron and steel bars and rods comprise one of the first heavy industries to be introduced into a developing country, and all the countries in our survey are producing their own, aiming at self-sufficiency. Effects of the shortage are mixed since raw material prices are high for all iron and steel components, creating a negative effect on the industries in developing countries. On the other hand, any country with a surplus (Taiwan) can take advantage of rising demand and high export prices for such products in neighbouring countries.

East Asia

Taiwan's industry is the largest and most efficient in the region (outside Japan). The major manufacturer of iron and steel products registered exports of \$28.8 million in 1971, which was a drop of four percent from 1970. Exports are sent mainly to Southeast Asia, Africa, New Zealand, the United States and South America. The diversity of markets indicates a good potential for exports as long as there is no large excess supply on the international market. However, when Japan brings her steel plants into full operation again, the potential for Taiwan steel products may diminish in the face of another world surplus. At present, raw materials for Taiwan's industry are obtained from abroad - steel scrap from the US, iron ore from India, and old ships from England. Intermediate products are almost entirely produced by the local industry. In Korea, there are 7 firms producing iron and steel products, but the first company to establish integrated production from pig iron to steel is Inchon Iron Works. This complex which was formed by a merger of Inchon Ironworks and the Inchon Heavy Industry Company in April 1970, is totally financed by the Korean Development Bank. Now the firm has the capability to produce everything from pre-reduced ore, pig iron and ingots to iron and steel bars and rods and steel sheet. In 1972, the company was able to produce a small surplus for export, amounting to \$700,000, sent entirely to the US. Although 40 percent of the firm's exports had been sent to Japan and Taiwan in 1971, US demand increased sharply in 1972 and absorbed all the Korea surplus. In early 1973 the Korean government temporarily banned exports in order to stabilize domestic prices which were very high. One of the main reasons for such high prices was the rapid increase in the price of steel scrap from the US, which leapt from \$45 per ton C & F in May 1972 to \$90 per ton in February 1973. In addition, the Vietnamese government prohibited exports of scrap from that country, aggravating the raw material problem.

Southeast Asia

In mid-1973, building booms in Malaysia and Singapore created a huge domestic demand for construction materials which local producers could barely meet. Thus, both countries have enforced a ban on exports of bars and rods since early 1972, except when a domestic surplus can be proven. It does not seem that such a surplus will arise in 1973. In general, producers in Malaysia would like to export because present international prices are higher than the domestic prices fixed by the government. However, steel firms realize that domestic demand must be satisfied first before export sales are contemplated. Malayawata Steel, Malaysia's largest steel mill, which is a joint-venture with Nippon Steel and the first integrated steel mill in Southeast Asia, had a surplus in early 1972 which could be demonstrated to the government. Thus, the government allowed export of a limited amount of bars and rods to Indonesia in 1972. The three firms interviewed in Malaysia also sent a fair amount of their production to Sarawak and Sabah (East Malaysia), which is essentially an export. The marketing manager of Malayawata estimates that the unusual excess demand situation will change by late 1973, but the manager of a small firm foresees the present situation prevailing for 2 to 3 years. In Singapore, exports of iron and steel bars are still banned and imports of steel products have been increasing.

The situation prevailing in Thailand is essentially the same as that in Malaysia and Singapore, even though G.S. Steel, Thailand's largest producer of bars and rods, predicted in October 1972 that a domestic surplus would continue for the next few years. In mid-March 1973 the Thai government ruled against the firm's export shipment to the Middle East due to fears of domestic shortage. At the same time, the government found that many retailers in Thailand were hoarding the commodity in anticipation of a price rise. Following the Yen revaluation in February, prices of raw materials from Japan rose, and this, combined with a shortage of finished goods in the area, caused the government to raise the domestic ceiling price of the commodity by 19 to 22 percent, depending

on specifications. The rise in prices in turn created cooperation between government and industry in two ways. The government promised to assist the industry in lowering its high production costs by lowering taxes on raw materials, especially on steel scrap from 5 percent to 0.5 percent, while the industry pledged to increase production for the domestic market in order to stabilize prices. Previously, the main obstacles to export by Thailand's industry were high production costs and very high freight rates. The government is now assisting the industry in overcoming the former problem, and the Japanese partner in the firm has negotiated reduced shipping rates with the conference lines. When the surplus demand situation changes, Thailand should have a good chance of securing part of the export market for this commodity.

Vietnam has its own domestic industry producing iron rebars and ingots, which actually exported US\$557,000 worth of goods in 1972, mainly to Indonesia and Singapore. Vietnam has a good supply of steel scrap and will be able to satisfy domestic needs as well as produce a surplus if it can only retain the steel scrap within the country. Many of the surrounding countries had been bidding for Vietnam's scrap metal and offering higher prices than Vietnam's main firm can afford. It was revealed that freight rates for the scrap from Da Nang to Korea are less than internal transport rates from Da Nang to Bien Hoa, where the plant is located. A serious mistake was made when the government donated land for the plant which was located far from any port. Demand is still small in Vietnam due to uncertainty, but it will be steadily rising as reconstruction begins. Thus, the government has imposed a ban on exports of scrap to ensure that domestic demand can be met. The Vietnamese firm can offer an export price which is approximately 10 percent lower than prices from Japan or Taiwan due to the foreign exchange subsidy which the government grants to all exporters. The Philippine's steel industry has not yet been able to break into the export market mainly due to Japanese predominance. The manager of Marsteel Corporation, the largest producer of steel products in the Philippines and a joint-venture with Armco Steel of the US, indicates that the firm imports all of its semi-finished raw materials from Japan. At the end of 1972 the firm was producing below capacity due to inadequate financing for purchase of raw materials. The firm feels that Japan and Australia should assist in financing the purchase of raw materials, especially since prices have risen to sharply in recent months. The industry still does not have the ability to supply even its domestic needs for iron and steel bars and rods.

At present the major market for bars and rods in Southeast Asia is Indonesia. However, this situation may change radically in the future, due to the heavy industrial complex being planned by a consortium of Japanese interests based on a feasibility study carried out by Nissho-Iwai. The complex would be built on Batam Island, which is located between Singapore and Indonesia, outside the Indonesian customs area. It would initially be based on oil refining, and then would include other types of heavy industry, especially iron and steel. The idea is to develop self-sufficiency in iron and steel and to produce Indonesia's requirements for oil drilling machinery domestically. At the same time, the complex should be capable of producing Indonesia's construction requirements for bars and rods. As the venture is still in the planning stages, it can be assumed that the Indonesian market will remain large for several years.

Complementarity

Complementarity in the iron and steel industry has been discussed, especially at an ECAFE conference in November 1969. The main advantage of such a scheme, of course, is that each country's industry would be large and could take advantages of economies of scale. At present, each country in our survey is attempting to develop its own fully-integrated steel complex, from the production of pig iron to finished steel goods. In many cases this is not entirely rational, since local raw materials are often not available and domestic markets are rather small. It would probably be better to allocate to each country that product for which it has an availability of raw materials. Malaysia and Australia have iron ore, Thailand has a small amount of iron ore and fluorspar, Indonesia can produce pig iron, and Vietnam has steel scrap. All these raw materials are needed in the production of any steel products. If each country concentrated on one or two products for which the Southeast Asian area has a high demand (iron rods, iron cables, deformed bars, etc.), the industries could be large, although not fully integrated in each country. Presumably, Indochina's demands for construction materials will be rising tremendously and each of the Southeast Asian

Table 4.9: Exports and imports of iron and steel bars and rods.

1969-71; \$(US)'000

	Exports			Imports		
	1969	1970	1971	1969	1970	1971
Japan	11,069	349,843	340,392	147	1,783	498
Australia	5,648	4,201	4,909	1,753	1,555	8,943
Korea	225	1,481	2,059	1,069	589	329
Taiwan	7,758	25,148	21,259	876	1,177	1,206
Philippines	94	531	—	2,891	4,910	3,049
Malaysia	1,336	223	3,319	1,517	3,288	4,533
Thailand	209	50	245	6,718	6,184	3,808
Vietnam	—	—	—	10,708	7,876	4,987

countries could concentrate on supplying one type of product. The main impediment to complementarity in Southeast Asia is political difficulties which arise continuously and which hamper cooperation. Thus it is argued that each country's domestic demand should be large enough to justify a large scale plant. However, this argument does not seem entirely valid as there will be other markets in less developed countries (Africa and the Middle East) which could absorb excess of production of a certain type of steel product. The advantages of a complementarity project based on efficiency and economies of scale probably outweigh the political problems which may arise. Under present conditions, the scheme would be justified especially while Japan is supplying the needs of China. The countries of Southeast Asia would be able to supply their collective needs without fears of shortage. However, if Japan returns to the open market on a large scale, export potential will diminish and the present world shortage will disappear.

Finished consumer goods

The commodities which we have included under finished consumer goods have shown the highest export growth rates of the three groups of commodities in recent years. Exports from developing ECOSEN member countries of six consumer goods categories grew at a rate of 56.4 per cent from 1969 to 1970 and 65.2 per cent from 1970 to 1971. We have included under this heading one commodity from SITC category 6 (tableware) and one from SITC category 7, machinery and transport equipment (television and radio). The other four commodities fall under SITC 8, miscellaneous manufactures. These finished consumer goods are generally sold directly to the wholesaler or retailer in packaged form ready for final sale. They are primarily labour-intensive products which depend on both imported and local raw materials. As the countries of Southeast and East Asia move increasingly to these sophisticated manufactures for export, their total value-added in manufacturing will increase accordingly. There is a major change underway in the performance and growth of the manufacturing sector in the countries of East Asia, which is following a pattern that has been witnessed by Japan within the last two decades. The export performance of Hong Kong, Taiwan and Korea in turn provides a good model for others. There seems to be a clear pattern of international adjustment from raw material and food processing into labour-intensive manufacturing such as textiles and eventually into light engineering, consumer goods, componentry and assembly. The latter developments are to a considerable extent tied up with the so-called internationalization of production of the larger corporations in Japan and North America.

These trends began with the United States' discovery of Japan as an important supplier of low-priced light industrial goods in the early 1950's, when it became less feasible to produce labor-intensive commodities in the US. By the latter 1950's, Japan was moving to the production of higher-quality and more capital-intensive goods as workers became more skilled, wages became higher, and the country began to shift its industrial base. Japan was partially forced into such a shift as the US raised its tariffs against Japanese goods and began to impose import quotas. The US and European demand for such labour-intensive manufactures as textiles, cheap garments, canned goods and footwear was increasingly filled by other countries in East Asia. During the 1960's Hong Kong, Korea, and Taiwan proved to be efficient low-cost suppliers of such commodities. This was accomplished by aggressive and intelligent entrepreneurs assisted by sympathetic and encouraging governments. At present the trend is beginning to change, with the East Asian countries feeling the pressures of developed countries' quotas and lower wages from Southeast Asia. The East Asian countries have been using the private and social income gained from labor-intensive industries to diversify into higher productivity capital-intensive products. While the East Asian countries are moving into high-technology industries, Southeast Asian manufacturers are gaining an increasing share of the market for the lower priced labor-intensive goods. With careful economic and social planning, and cooperation where possible, the Southeast Asian countries may begin to supplant East Asia as suppliers for this type of product. Because their industrial structures will become more sophisticated in future, exports of manufactured consumer goods show good promise for Southeast Asia. However, the export accounts of these countries will continue to depend heavily on primary and intermediate goods in the short and medium term. The following industrial profiles, especially of garments and footwear, illustrate the changing patterns of export production in the East and Southeast Asia countries.

Stainless steel tableware

Spoons, forks and similar tableware, especially made from stainless steel, constitute a relatively new commodity produced by developing countries.

Export

Although Japan has completely dominated the export of stainless steel tableware for the last two decades, the shortage of labour and high wage rates in Japan, combined with two yen revaluations, have caused export prices to become uncompetitive for this labour-intensive commodity. Thus, the value of exports from Japan declined from \$US 22.7 million in 1970 to \$21.0 million in 1972, and buyers began shifting to suppliers in Taiwan and Korea. Korea began to export tableware in 1964 to Canada, and since that time its exports have increased yearly. Metal tableware exports in 1969 totalled \$2.7 million, almost twice the record of 1968 (\$1.4 million). This represents a 55-fold increase in the five years following 1964. In 1970 exports climbed to \$4.4 million, but declined to \$4.1 million in 1971. Foreign sales of stainless tableware from Taiwan rapidly expanded to a record \$6.1 million in 1971. Taiwan began exporting at about the same time as Korea, and their industries are now similar in size. The major export market for both countries is the US, which absorbs about 80 percent of Taiwan's exports and more than 90 percent of Korea's exports. Other important markets include Canada, West Germany, Sweden, the UK and Australia. At present the export price for this commodity is high, due to a world-wide excess of demand over supply. Outside of Japan, Taiwan and Korea, no countries in the Pacific-Asian region are exporting significant amounts of tableware. In the East-Asian countries, Western-style tableware was developed from the start as an export item rather than for the domestic market, since local demand for the product is very small. Thailand has developed a cottage-scale industry producing bronzeware and brozenickel tableware for export, but exports still amount to less than \$1 million per year. Similarly, Malaysia has developed some export of pewter tableware which is produced from tin. Again, production is on a very small handicraft industry scale, and exports are for a small specialty market. Aside from this negligible competition from Thailand and Malaysia, East Asia's prominence in the industry remains unchallenged.

Nature of the commodity

There are three main processing steps used to manufacture stainless steel tableware from stainless steel sheets: "cutting out"; "pressing"; and "grinding and polishing". Each of these steps requires labour-intensive work from skilled workers with technical supervision. The relatively labour-intensive nature of metal tableware production has caused advanced western countries to rely more and more on imported tableware. Since the types and sizes of flatware vary according to specifications and patterns requested by buyers, there is no fixed standard for stainless flatware. However, in Korea and Japan, the product is graded by quality and weight into A (semi-mirror polish), B (mirror polish) and C (high mirror polish), the quality increasing from A to C. Generally, Japan, the US and European countries produce the highest C-grade tableware while Korea and Taiwan export B-grade merchandise. For export, stainless flatware is sold by sets of 24, 50, 64 or 115 pieces.

Difficulties facing the industry in Taiwan and Korea

One of the major problems facing the industry at present is its complete reliance on imported raw materials. So far the entire quantity of stainless steel sheet necessary for tableware production in both Korea and Taiwan has been supplied by Japan, which is still their principal competitor for exports. With recent shortages of steel products in the region as well as Japanese yen revaluations, raw materials have become scarce and very expensive. The construction of factories producing stainless steel in Korea and/or Taiwan would lessen the dependence of the industry on Japanese price policies and would give a considerable boost to the stainless flatware industry as well as to other industries utilizing stainless steel. With the present favorable market situation, prices from Korea and Taiwan are competitive in spite of rising costs. However, a domestic stainless steel sheet industry would enable larger-scale production and an expansion of exports. Another difficulty facing the industry in Taiwan and Korea is a shortage of qualified skilled mechanics needed to produce high quality products at competitive prices. Some firms are sending employees to Japan for training in the necessary engineering skills. Korean firms are now trying to improve the quality of their product from B-grade to C-grade, but the lack of available skilled workers and

Table 5.1: Exports and imports of spoons, forks, and similar tableware

	Exports			Imports		
	1969	1970	1971	1969	1970	1971
Australia	146	166	431	2,750	3,253	3,225
Japan	13,820	22,677	21,037	188	267	213
New Zealand	1	3	17	392	511	n.a.
Korea	2,726	4,437	4,145	11	18	130
Taiwan	3,062	4,840	6,085	—	1	9
Malaysia	2	3	—	317	498	n.a.
Philippines	—	—	—	107	78	27
Thailand	—	279	600	877	924	380

technicians have made this a slow process. In Taiwan the problem is that skilled engineers and workers do not want to waste their time on a product such as tableware when there is such a high demand for engineers in the blossoming electronics and precision engineering industries. In fact, the manager of one of the largest tableware manufacturing plants in Taiwan feels that skilled workers in Taiwan should be better utilized in the production of more precision products, while the production of tableware should be shifted to countries in Southeast Asia. The manager is considering a shift from tableware to a new line of business requiring more high-precision production methods, such as machine tools.

Finally, the complete dependence of both Korea and Taiwan on the US market has somewhat restricted expanding exports. The United States adopted a customs tariff quota system on imports of tableware from Japan, Korea and Taiwan in February 1971, in order to assist the domestic stainless flatware industry. Such a measure should be a temporary step, however, due to the rapidly increasing demand for tableware from the US. This measure has mainly restricted the entry of new firms into the industry, since the quota is allocated among firms according to past performance. Advanced countries other than the US will depend more on imported tableware in future because of the labour-intensive nature of its production. Thus, Korea and Taiwan must make efforts to diversify their markets in order to capture a share of new expanding markets in Europe and Australasia. At present the tableware industry is a small one which requires skilled workers and promotional efforts by governments. In the countries of Southeast Asia it may be a good export industry if workers can be trained and raw materials become more easily available. Prices are high on the international market for this commodity, and thus it might have good potential. However, it is probable that if the industry is promoted in Southeast Asia, it will need technical and financial assistance from foreign countries.

Electric appliances

The electronics industry has been one of the fastest growing industrial sectors throughout the world during the past 20 years. The US is still the largest producer of electrical products in the world, with a growth-rate averaging 11 percent per annum from 1960-70. However, much of the growth in the industry was in the fields of military equipment, computers, and measuring instruments for space projects. On the other hand, Japan's electronics industry has been growing at a rate of 18 percent per annum during the same period and has been dominated by household consumer appliances, such as radios, televisions and refrigerators. Japan took advantage of high consumer demand for such products during the 1950's and 1960's which resulted from mounting domestic demand accompanying modernization and electrification as well as booming export demand from the US and other foreign countries. Presently Japan is the second largest producer of electronics in the world and by far the largest exporter of electric consumer durables.

Japan

The overwhelming importance of electrical equipment and appliances for household use in Japan's electronics industry is illustrated by the fact that such products accounted for 43.2 percent of production in the industry in 1970. At the same time, computers and other industrial electric devices amounted to only 30.5 percent of output. Especially remarkable growth during the past few years has been recorded in the production of colour television sets which grew at an average annual rate of 130.6 percent during 1965-70 due to continuously expanding demand from the US and Europe. Japan's electrical machinery industry has attained spectacular developments in the field of mass produced household appliances, which has enabled Japan to acquire the dominant position in the international market. Japan has far outstripped former rivals, such as the US and West Germany, in exports of radio and television. In 1969 Japan's exports of these two products reached \$993.5 million while Germany's exports amounted to \$214.6 million and those from the US to \$83 million. The US has become by far the largest consumer and importer of both products, with imports totalling \$710 million in 1969, of which 75 percent came from Japan. [J1, p. 119].

Generally, Japan's household electric appliance industry is divided into two types of producers. The first are those which are "exclusive" manufacturers specializing in the production of home appliances, such as Matsushita, Sanyo, Sony and Sharp. The second group is composed of manufacturers which also produce heavy equipment for generation and distribution of electricity, such as Hitachi, Mitsubishi and Toshiba. Both types of companies are powerful concerns which have networks which include the majority of retail outlets for their products. In addition these large firms have a worldwide sales network which generally entails a sole distributor in most importing countries or an assembly plant for the company's product abroad. The electronics industries in most Southeast Asian countries are dominated by Japanese firms which either control imports or assemble their products domestically. This control of all aspects of production and distribution has led to discontent on the part of Japanese consumer associations. In the second half of 1970 and 1971 they boycotted purchases of colour TV sets, claiming that the large firms were manipulating the distribution system and were charging dishonestly high prices to the Japanese consumers. Another setback for the Japanese electronics industry resulted from difficulties encountered in selling home appliances to the US market in 1970 and 1971 due to the business recession there and to the suspected dumping of Japanese products in the US market.

In spite of these slight setbacks, exports of radio and TV receivers have been expanding rapidly in recent years. Exports of these two products amounted to \$1,460 million in 1970, an 87 percent increase over 1969. The increase in 1971 was only 10 percent, however, due to sluggish growth in exports of radio receivers. Because of the yen revaluation and high labour costs in Japan, some buyers are switching from Japan to Korea and Taiwan as suppliers, especially for low-priced electronic equipment. However, Japan still seems to supply the best quality equipment at low prices compared to its main competitors, the US and Germany. Although imports of radio and TV receivers into Japan are small, they have been increasing steadily, especially imports of lower quality equipment from Taiwan and Korea.

Taiwan

Taiwan is the second largest exporter and producer of electrical home appliances in the Pacific Asian region, with exports of TV and radio receivers totalling \$134 million in 1971. This represents an increase of 88 percent over 1970 and a four-fold increase over 1969. During the early 1960's the government of Taiwan determined to broaden the industrial base through diversification and the promotion of exports. Because of promotion, the electronics industry in the mid-1960's emerged as an increasingly significant field in the manufacturing sector, registering an annual average growth of 45 percent during 1961-70. Among the electronics products, transistor radios, mainly for export, scored the greatest rate of increase in production. At present there are some 260 electronics plants turning out about 100 kinds of products. Of these plants, some 90 are either subsidiaries of foreign manufacturers or Chinese-foreign joint-ventures. The main products are transistor radios, television sets, tape recorders and various kinds of components and spare parts. Most of the products are for export with television receivers totalling \$85 million in 1971 and radio receivers totalling \$49 million. [C1, p. 231].

The largest wholly Chinese-owned electronics firm is Tatung Engineering company, which began to export electric fans to the Philippines 20 years ago. The firm receives technical assistance from both Toshiba of Japan and Westinghouse of the US. Tatung produces radios, TV sets, electric fans and other home appliances, mainly for the domestic market. Although exports accounted for only 10 percent of production in 1971, total exports reached \$3.5 million, an increase of 75 percent over 1970. Exports were sent to 99 countries, but were concentrated in Southeast Asia, Hong Kong, the US and Japan. The Tatung trademark is well-known in countries such as Thailand and the Philippines, which are increasingly substituting electronic goods made in Taiwan for those made in Japan. In spite of the high level of expertise which has been reached in the electronics industry, companies in Taiwan still have to import many components for television sets from Japan. Another firm which has been capturing some of Tatung's market is Sanpo Electric Manufacturing Company which was established in 1960. The firm receives technical assistance from Sharp Osaka in Japan, and produces mainly TV and radio sets and refrigerators. This firm is more export-oriented than Tatung with exports in 1972 accounting for 50 percent of production, and totalling \$16 million. Most of the company's exports of transistors are sent to Japan and Australasia while spare parts are exported to Southeast Asia. Other markets include the US, Canada, and Europe. The manager of Sanpo feels that the domestic market has been saturated due to an over-expansion of the industry and heavy competition among domestic and foreign firms in Taiwan. Because of domestic saturation, he has turned most of his efforts toward the export market.

Korea

In line with worldwide trends of expanding electronics industries Korea stepped up its development of electric products in the 1960's. Household appliances represented 41 percent of total output in the electronics industry in 1969 while electronic parts represented 59 percent. Radio and TV are Korea's major electronic appliances, representing 26 percent of total output. As for parts, transistors, integrated circuits (IC), and memory planes accounted for 48 percent of total output. Gross exports of electronics products in 1969 amounted to \$41.9 million, a two-fold increase over the previous year. Over 90 percent of the export value was contributed by five items : ICs, transistors, radios, TVs and memory planes. About 76 percent of all electronics exports were sent to the US, and most of the remainder went to Hong Kong, Japan, Canada, Singapore and West Germany. In 1969, 59.2 percent of total production of all electronics products was exported. [K1, p. 119]. Exports of radio and TV receivers amounted to \$5.6 million in 1969, about 13 percent of total electronics exports. Because of unfavourable market conditions for radios in 1970, exports of these two products fell to \$3.9 million, a drop of 30 percent. Conditions in 1971 improved considerably with export of TV and radio increasing by more than 100 percent to \$8.2 million.

The leading exporter of electronics products in Korea in 1972 was Motorola Korea Company, a wholly-owned foreign venture which has specialized mainly in transistors and integrated circuits. Export amounted to \$23.2 million in 1970, representing 17 percent of all electronics products exported in that year. The majority of other leading export firms are joint-ventures with foreign firms. A Korean-owned venture which has concentrated mainly on the production of appliances such as radio and TV is the Gold Star Company, which started operations in 1959. Some technical assistance has been received from General Electric of the US and Hitachi of Japan for production of refrigerators and TVs. Exports of TV and radio from Gold Star reached \$8 million in 1972, and are expected to reach \$11 million in 1973, accounting for one-quarter of the firm's total output. Exports have been directed to the US, Japan and Israel. Presently, there are seven large firms producing electric appliances in Korea, and domestic competition for the local market is very keen. Thus firms are constantly trying to expand exports, especially by diversifying from the US to new markets. One problem which firms in Korea are facing is that the level of technology has not advanced sufficiently to ensure high-quality products. Korean products have a reputation for very low export prices, and buyers are reluctant to pay prevailing world prices for electronics products from Korea. Thus, manufacturers continue to use obsolete techniques in order to keep prices low. Some manufacturers feel that the Korean government should encourage the electronics industry by assisting the development of modern techniques and ensuring high-quality standards. If quality could be assured, it would be easier to find new markets.

Table 5.2: Exports and imports of radio and television receivers

	1969-71; \$(US)'000					
	Exports			Imports		
	1969	1970	1971	1969	1970	1971
Australia	525	610	740	4,490	6,505	7,710
Japan	778,634	1,459,581	1,605,309	977	2,041	1,539
New Zealand	58	32	12	428	418	2,217
Korea	5,595	3,906	8,188	5,447	3,907	3,661
Taiwan	25,834	71,296	134,017	5,504	8,273	7,318
Malaysia	64	756	1,659	7,656	9,025	8,862
Philippines	—	—	8	—	566	—
Vietnam	—	—	—	6,534	2,417	2,971
Thailand	30	193	157	13,114	12,071	7,123

Southeast Asia

The electronics industry in Southeast Asia is generally oligopolistic and dominated by large international firms which have established assembly plants in the area as import substitution ventures. Because of the generally low level of technical sophistication in these countries, home appliances are assembled from imported components for the local market and have not as yet made inroads into the export market. One exception is the small amount of radios or TV sets which may be exported from a country such as Thailand to less developed neighbouring countries such as Laos and Cambodia.

Singapore was the only country in the region which built up its domestic industry sufficiently in the 1960's to enable it to export. During the past decade, electronics became one of the three fastest-growing industries in the manufacturing sector in terms of both value-added and employment. Rapid growth in this industry has resulted from the government's special inducement for capital-intensive rather than labour-intensive industries during recent years, when a labour shortage became apparent. With a small domestic market, it was also clear that any sizeable expansion of such industries in Singapore would have to be based on potential export sales. Starting from a low base, exports of electrical machinery and appliances have increased by an average of 200 percent a year since 1969. The government feels that this industry has much better future potential than traditional labour-intensive industries such as textiles. Most investment in electronics has been carried out by multinational companies whose objective has been to develop their Singapore operations as part of their global marketing programmes, as well as to manufacturers and components for parent companies in other parts of the world. Presently a number of large international firms are stepping in to start production in the electronics field. Plessey, which up to now has been conducting only assembly operations, is embarking upon construction of an electronics complex which will produce the whole range of electric appliances and equipment. Philips is similarly investing in four new factories and General Electric, which now has two factories in Singapore, is investing in three more. While highly technical industries such as electronics will probably thrive in Singapore's labour-short economy for many years to come, the potential for exports of such products from other Southeast Asian countries is limited. When techniques become more sophisticated, electronics firms may want to utilize the inexpensive labour in Southeast Asia for exports of their products.

Furniture

"Furniture" formerly referred primarily to wooden furniture. However, since the early 1960's students' steel desks have become increasingly popular, and now account for the major portion of desk production in industrialized countries. At present desks in countries such as Japan and

the United States are usually made of steel, unless specified as "wooden desks". If furniture is roughly classified into "family use" and "business use", family furniture is mostly wooden, while business furniture is mainly metal. In addition, furniture of synthetic plastic resins have now appeared on the markets of industrialized countries and are becoming increasingly popular. Some observers forecast that the furniture market will be roughly divided into wooden, steel and plastic furniture in future. At present, however, the plastic material is used mainly as a substitute for wood, and few people in the industry designate this material as an independent category. Generally, we can expect exports of furniture from developing countries to consist almost entirely of wooden furniture, a labour-intensive commodity, while developed countries will export a higher percentage of mass-produced capital-intensive steel or plastic furniture products. The main types of furniture produced for export in the developing countries of the Asian and Pacific area are knock-down wood and rattan furniture. Since freight costs are extremely high on furniture due to its bulky nature, knock-down furniture has become the predominant type for export. Thus, the producer can do the intensive handwork and the product can be fitted in a smaller box, but the importer must assemble the finished product himself. Rattan is a strong vegetable fibre produced throughout Southeast Asia and used extensively for furniture sold on the domestic market. Knock-down rattan furniture is a recent development which has found a good market in Australia. [J4, No. 5]. Although no developing country in the region is yet exporting large amounts of furniture, it is thought that the industry has good potential, looking at the success of Japan and Hong Kong. It is a labour-intensive industry which requires a large degree of handwork by skilled woodworkers. European and American demand for imported furniture should be increasing due to the higher labour costs incurred in their domestic industries.

Japan

In 1870 the first modern production of furniture was started in Japan. In the early 20th century, under the influence of western culture, the production of western furniture increased to meet growing demand. In 1920, when the import of wood-working furniture machinery was initiated, the Japanese furniture industry began a steady move toward mechanization. Gradually, wood-working factories increased throughout the country. When World War II broke out, the Japanese furniture industry was forced to adapt to military needs, but this interlude speeded the post-war introduction of new technology, such as mechanical processing and bonding. [J4, No. 5]. After the war, there was a high demand for furniture from US forces living in Japan and a growing demand from the Japanese themselves who had adopted western styles of living. In response to rising demand the materials used in furniture manufacture underwent a remarkable improvement, and the introduction of mechanical processing promoted mass production in the industry. At present, synthetic wood made of plastic is being actively developed and fully utilized as a basic furniture material. In the fields of bonding and mechanical processing, new wood-working technology developed in the United States and Europe is being positively introduced to Japan under licensing or technical tie-up arrangements. These activities are helping to develop the mass production system in furniture manufacture in Japan. Manufacturers of furniture in Japan are widely distributed throughout the country. Although the history and development of the industry varies in different areas, manufacturers have in common an easy access to raw materials and the production of a small variety of furniture in large quantities. Most manufacturers in local areas formerly produced furniture as subcontractors for wholesalers. Today, however, some manufacturers have grown into large companies using modern mass-production systems.

Japanese imports and exports of wooden and steel furniture have shown tremendous growth in the past several years. Exports of all types of furniture rose by 28 percent in 1970 and by 68 percent in 1971, reaching a peak of \$31 million. The majority of exports went to North America (73 percent) followed by Asia (16 percent) and Australasia (6 percent). Exports to Europe and Southeast Asia are about the same, with smaller volumes going to Africa and Latin America. By type of product, the export of chairs occupies about 60 percent of the total, desks and tables 3.7 percent and box-type furniture (wardrobes and chests of drawers) 4.9 percent. Although Japan still has a trade surplus in the commodity, imports have been growing even more rapidly than exports. In 1970 imports increased by 89 percent and in 1971 by 119 percent, reaching \$13 million in 1971. A breakdown of figures for 1971 indicates that imports of wooden furniture

increased by 115 percent while steel furniture increased by 160 percent. Although imports of steel furniture have been growing much more rapidly than those of wooden furniture since 1969, the former still occupies only 12 percent of total imports. The greatest volume of imports during the last five years have originated from Europe, followed by Asia and Latin America, although the US is still the largest single supplier. Imports from Asia in 1969 and 1970 accounted for 33 percent and 28 percent respectively of total imports. In spite of the decrease in Asia's share in 1970, the value of imports from Asia have been steadily increasing. The major suppliers from Asia were Taiwan, Hong Kong, Mainland China and Korea. In Southeast Asia, a steady increase in exports to Japan during the past five years has been attained only by the Philippines and Thailand. However, exports from these two countries were very small, amounting to less than \$ 30,000 each in 1970.

Taiwan

Taiwan is by far the largest exporter of furniture in the region, with the exception of Japan. Exports totalled \$ 7.4 million in 1971, a 136 percent increase over 1970, and \$ 15.2 million in 1972, a 105 percent increase over 1971. Most furniture exports from Taiwan consist of hand-made Chinese-style furniture or modern wooden knock-down furniture. By far the largest market for Taiwan's exports is the US, where demand for Chinese-style furniture has been rising rapidly in the past few years as well as demand for modern household furniture. The second largest market is Japan, where there has been a rising demand for furniture of Chinese design used in drawing rooms for the past three or four years. Other important importing countries include Australia, Hong Kong, the UK, Canada and Africa.

Most furniture and wood-working factories in Taiwan are small family units, but there are also several large units with modern machinery and equipment for mass production. Because of Chinese skill at wood-working and the general efficiency of labour in Taiwan, the furniture industry has great potential in Taiwan. A typical exporter of finished furniture products in Taiwan is the Yamaha Furniture Company which runs a small scale plant. This firm was set up as a cottage industry in 1957 but started producing modern furniture for export in 1967. Exports have been increasing at a rapid rate reaching \$ 210,000 in 1972, a 24 percent increase over 1971 and a 100 percent increase over 1970. About half of Yamaha's exports are sent to Hong Kong where they are probably re-exported. Other exports are concentrated in the region, going to Japan and Southeast Asia. The firm is presently producing at about 50 percent of its capacity of 30,000 chairs per month. The manager attributes his excess capacity to the lack of technical assistance available to the industry. Furniture manufacturers in Taiwan must learn how to cure wood properly in order to prevent shrinkage or breakage when the finished product is sent to Europe or the US. The manager is planning to approach some Japanese manufacturers who might be able to provide technical assistance, capital and training facilities. He feels that the prospects for furniture exports are excellent if he can learn the techniques which have made Japan and Hong Kong famous for furniture. The views of Yamaha's managers are shared by Japanese importers, who complain that finishing is often rough, and that the wood of some imported tables is not dry enough, causing cracking in future. They are of the opinion that furniture exporters from Taiwan and other countries in the region should give more study to the Japanese way of living and tastes, and to place more emphasis on quality control for export merchandise.

Korea

Korea's exports of furniture are still small, but they have been expanding rapidly in recent years. Total exports in 1971 amounted to \$427,000, a 95 percent increase over 1970. Several large modern firms have recently been opened, and leaders in the industry feel that, due to lower labour costs in Korea, buyers will be shifting from Japanese to Korean suppliers. One such firm began production in late 1971 as a joint-venture with Inokawa Wood Manufacturing Company, of Japan. In its first year of existence the firm exported 100 percent of its production, amounting to \$ 450,000 (more than the total amount exported from Korea in 1971). During 1972, all exports were directed to Japan, but the firm is hoping to diversify its market to the US, Canada and Australia. At present the company is producing at full capacity and the government is encouraging the export of this

product. The main products manufactured are children's furniture, such as wardrobes and cabinets, and laquerware furniture. A slightly older firm produces wooden furniture and door casings, and exports approximately 25 percent of production. In 1972 exports amounted to \$ 500,000, but the 1973 target is \$ 1 million. Exports of door casings and chairs were directed to Japan and the US, and imports of raw logs came from Indonesia. The manager feels that techniques in Korea meet international standards, but that raw materials are becoming more and more difficult to obtain. Since the industry is just getting started, the government has not yet done much besides lending its cooperation and encouragement to the industry.

The Philippines

The furniture industry in the Philippines is an old and growing one, although total exports of furniture look minimal in the attached table. Actually, two of the three firms interviewed exported \$ 433,000 worth of furniture in 1971, much higher than the total official export figure. This is probably due to the predominance of rattan (cane) furniture, which may be classified under a different category than wood furniture in Philippine trade statistics. One of the oldest furniture manufacturers in the Philippines is Gonzalo-Puyat and Sons, which was established in 1924. Exports of rattan furniture in 1971 amounted to \$348,000 which is 52 percent of total production. Major markets were the US, Japan, Australia and Southeast Asia. Although the company is old and working at full capacity, its production is carried out on a small scale. The firm is run as a family business and was originally established to supply the local market. A similar firm is the Nazareno Furniture Corporation which was established in 1937 as a family business. Although the firm has just recently started exporting, exports of rattan and wood furniture now account for 90 percent of production, and amounted to \$85,000 in 1971. The rather low value of exports reflects the small-scale nature of the company which produces primarily in response to import orders from the US, Australia and Europe. The firm is quite satisfied with present conditions in exports and is planning to expand in the near future. Other firms have been established more recently, but are still producing on a small-scale. Almost all raw materials for the production of furniture can be obtained domestically and, in general, furniture is quite a lucrative business in the Philippines. Highly skilled woodworkers and low wages in the Philippines have provided good incentives to invest in this industry.

Singapore and Malaysia

Malaysia and Singapore are both developing a good and expanding business in wood and rattan furniture. Malaysia's exports in 1971 reached \$1.4 million, an increase of almost 150 percent over 1970. Modern techniques of producing standardized knock-down furniture are now used by several firms, although the industry in general is still small-scale. One firm in Malaysia has been increasing the percentage of rattan furniture exported, from 25 percent of production in 1969 to 50 percent in 1972. This firm was established in 1946 to supply the home market and has just begun exporting in the last five years. Total exports in 1972 reached \$22,000 worth of mainly rattan knock-down chairs which were exported to Australia and the UK. Since Australia purchased about 85 percent of the company's exports, the manager is hoping that handmade furniture will be included on the list of handicrafts which can be imported duty-free into Australia. Another exporter of furniture in Malaysia started out as a trading company which used to import steel furniture for office use into Malaysia. The owner-family realized, however, that the trend in Malaysia was shifting to wood furniture which is cheaper to make locally than to import. The company began producing its own furniture and first started exporting in 1972. Although the company has been producing wood and rattan furniture since 1962, the factory for knock-down chairs and tables was just established in 1972. Total exports in that year amounted to \$20,000, a very small portion of total production. The firm has determined that it is more economical to produce a few standardized items such as dining room tables and chairs than to produce according to foreign orders. They have found that demand in Japan and Australia is quite high for their standard products, and that many inquiries have been coming in since their initial exports in 1972. This firm is one of the largest producers in Malaysia and thus has the potential ability to produce relatively large quantities of high quality furniture for export.

Table 5.3: Exports and imports of furniture

	Exports			Imports		
	1969	1970	1971	1969	1970	1971
Australia	1,444	1,512	1,979	5,468	6,098	7,263
Japan	14,441	18,538	31,086	3,192	6,030	13,243
Korea	4	224	427	178	437	272
Taiwan	1,721	3,114	7,367	8	2	117
Malaysia	528	559	1,394	1,443	1,483	903
Philippines	31	129	114	—	—	—
Thailand	11	5	26	252	267	140

Koya Wood Industry of Singapore has entered into the same type of production of a few standardized products for export. The firm was established only in 1970, but has already increased its percentages of export from 40 percent to 55 percent of production in 1972. This firm was established by several businessmen already in the furniture industry who realized that there was a good market in Europe which they could capture if they pooled their resources. Exports in 1972 amounted to \$240,000, and major markets were Australia, Canada, West Germany, and Holland. The firm is producing 80 dining room sets per day – 80 tables and 500 chairs per day. The company is becoming well-known and the directors feel that the pooling of resources has given a boost to the furniture industry in Singapore.

Thailand

The furniture industry has a high degree of natural protection from import competition due to the bulky nature of the product accompanied by high freight rates, and relatively low domestic prices for rattan and wood furniture. The local industry has other advantages such as cheap labour and a relatively plentiful supply of beautiful wood. In addition, Thai workers are quite skilled in carving wood and creating high-quality furniture and fixtures. The majority of manufacturers of modern furniture and fixtures produce on essentially a cottage-industry scale. In addition to approximately 200 small-scale firms, there are eight larger firms which utilize mass-production techniques. Some of these have begun to export. The largest of these is Raja Furniture which was established in 1961 and has a production capacity of between 5,000 and 10,000 chairs and tables per month. At present the firm is producing at about 70 percent of capacity due to the small domestic market and limited opportunities on the export market. The firm has just begun selling standardized knock-down chairs on the export market, with total exports in 1972 amounting to only \$10,000. Trial exports were sent to the US, Australia, Denmark, Japan and Singapore. Raja is the first company to export furniture from Thailand. The manager says that there is very little competition for teak furniture since it is a specialized, high-priced commodity. Buyers abroad are willing to pay higher prices for teak than for other woods, but the price they offer Raja is very often too low. The company is willing to use other woods if the market demands a cheaper product.

Furniture making for export became a promoted industry in 1972, making teak furniture exempt from the high export duties imposed on teak logs and conversion. Hence, Thai teak furniture should appear on foreign markets at competitive prices, and should not be much more expensive than the raw Thai timber imported by furniture makers abroad. The Board of Investment has determined to promote the export of furniture, emphasizing knock-down furniture parts which could be assembled abroad. This would reduce the bulky nature of fully built-up furniture and would save on transport costs. Such promotion is definitely necessary since Thailand exported only \$26,000 worth of furniture in 1971 and since the product is not well-known abroad. Assistance in marketing should be provided by the government, since most of the manufacturers are Thai companies with little experience on the international market.

Travel goods

The general category "travel goods" covers a variety of commodities such as luggage, briefcases, handbags, wallets, purses and pocket-books made of leather, textiles, plastics and other materials. The information gathered on this category of commodities is rather limited by two factors: the diversity of products included and the manner of production either on a cottage industry scale or on a larger scale by trading firms producing many other commodities. However, judging from rapidly rising export figures in Taiwan and Korea and considering the labour-intensive nature of such products, it is considered that travel goods have good export potential in the Asian and Pacific region.

Southeast Asia

Most developing countries have a traditional cottage-scale industry producing native handbags and other travel goods for sales to tourists and for export to speciality shops dealing with handicrafts. For example, the Philippines has highly skilled leather craftsmen producing elaborate Spanish-influenced Filipino-style handbags and briefcases. Other popular handicraft items include handbags and carrying cases woven from nito, bamboo, baracbac, buri and abaca. Thailand's cottage industry is based mainly on Thai textiles, including hand-woven cottons and silks produced in the northern part of the country. In addition, increasing amounts of leather wallets and crocodile-skin bags are sold to tourists and importers abroad. Singapore is a center for bags produced from crocodile and snake skins, as well as from textiles, leather and synthetics. However, although such cottage-industry products are good for the tourist business, travel goods have not yet become important export earners in Southeast Asia. For example, total official exports from the Philippines, Thailand and Malaysia never reached \$1 million per year for 1969-71. These figures are deceptive, however, since they do not include the large volume of sales to tourists visiting Southeast Asia. Chances are that actual foreign exchange earned is many times the figure shown in the table.

East Asia

On the other hand, the most successful exporters of travel goods are Taiwan and Korea, where production is carried out on a larger scale. Handbags and luggages are produced mainly from synthetic materials, such as vinyl and plastics, as well as from leather. Both governments have been promoting travel goods (especially luggage) as an export industry, and exports were rising rapidly from 1969 to 1971. Taking the two countries together, exports doubled from \$5.65 million in 1969 to \$11.3 million in 1970, and doubled again to \$22.6 million in 1971. Major markets for such products are the US, Canada, Japan, the EEC countries, Scandinavia, and Australia. In general, mass production of these commodities is carried out by large manufacturers of chemical products, garments and accessories, or footwear. In Taiwan, major producers of luggages and handbags produced from vinyl, polypropylene and other synthetic materials include the Asia Plastics Factory, China Folex, Kodama Taiwan Industrial Corporation, Transworld Industries and the Formosan Chemical Industrial Corporation. Such firms are involved in the production of all types of plastics products for domestic and export markets. In the travel goods category they produce handbags, sportsbags, briefcases, travel cases, flight bags, and high quality durable luggages. Plastic products now contribute by far the major portion of exports in the travel goods category. However, Taiwan is also exporting semi-cottage industry scale travel goods produced from leather, snake skin and sisal. Another of Taiwan's speciality items is high-quality beaded handbags. The diversity of production methods and products found in Taiwan for this export may suggest that it has good potential in countries at many stages of development.

In Korea, the pattern is essentially the same. Exports have been rapidly increasing, but their absolute level is approximately one-third of that in Taiwan. Again the major producers of luggage for export are the large chemical companies such as Sam Yung Chemical and Lucky Chemical Company, which has created a luggage division. In addition, there are large firms devoted solely to the manufacture of luggage, such as the Yoo Poong Luggage Manufacturing Company, which produces mainly sporting goods such as back packs, sportsman's bags and tote bags. This firm was set up in 1947, and is now the largest producer of such products in Korea. Although exports accounted for only 17 percent of production in 1972, total exports amounted to \$5.3 million,

Table 5.4: Exports and imports of travel goods

	Exports			Imports		
	1969	1970	1971	1969	1970	1971
Australia	185	327	253	6,525	6,404	7,650
Japan	1,714	806	6,394	4,808	6,188	5,910
New Zealand	418	470	563	139	141	171
Korea	1,228	2,479	5,442	39	45	50
Taiwan	4,433	8,844	17,116	17	8	105
Malaysia	2	2	2	1,193	1,420	n.a.
Philippines	801	897	750	4	1	6
Thailand	141	39	68	1,423	596	330

approximately half of which was contributed by travel goods. A smaller firm which specializes in the production of handbags is the Mikwang Handbag Manufacturing Company, which produces leather, vinyl and beaded handbags. Although the firm was established in 1952, exports were first shipped in 1972, amounting to \$720,000. Since the export market is good for luggage and handbags at present, Mikwang and other handbag manufacturers are making every effort to gain a share of the market.

Raw materials

The major problem facing manufacturers of travel goods, both large and small, is a shortage of raw materials. Producers of leather goods in the Philippines and Thailand find that they can barely secure enough leather to meet local demand for leather products. Leather is becoming a somewhat scarce commodity, inducing firms to export raw hides because of high export prices. Because of scarcities at home resulting from exports, domestic prices of hide have been climbing rapidly in Southeast Asia. In Thailand, producers have been asking for a ban on the export of raw hides, since the country has no remaining stock. Demand for Thai hides is strong in Malaysia and Singapore, which do not have their own tanneries and cannot produce enough leather products to meet home demand. Prices have been increasing by more than 100 percent a year in the past two years. This situation is not peculiar to Southeast Asia, however. The domestic price of hides in the US and Japan has risen more than 200 percent in the last year. A ban on exports of hides would provide leather products producers with enough raw materials to produce very lucrative leather products for export. In addition, there is a present shortage of synthetic materials such as vinyl in the countries of East Asia. Considering the whole range of plastic goods which require such raw materials, travel goods rate rather low on the list of priorities. Most of the plastics are now imported from the US, Japan, and West Germany. With international monetary crises and world shortages of some basic plastic components, high prices for raw materials are forcing some producers to work below capacity, hurting the efficiency of their operations. However, in the long run such price increases can be passed on to the importer, since developing Asian countries are still able to produce with much lower costs than advanced countries. The relatively low costs of labour will provide the Asian and Pacific countries with a comparative advantage for many years to come.

Garments

The garment industry represents an important step in forward integration for the textile industries of East and Southeast Asia. By processing textiles into finished wearing apparel for export, a higher manufacturing value-added accrues to the country of origin of the textiles. Low labour costs in the developing countries of the Pacific Asian region give them a comparative advantage over developed countries. In spite of tariff and non-tariff barriers to exports of garments, the East Asian countries have built up huge garment industries which are providing large amounts of foreign exchange. Following their example, the countries of Southeast Asia are beginning to shift

from exports of textiles to garments. Since wages have been increasing and quotas have become more restrictive, the East Asian nations have been moving to production of more sophisticated highly processed garments. To fill the gap which may be created in the low-price categories, the Southeast Asian countries have begun to expand their garment export industries.

Japan

Japan's production of ready-made garments for the domestic market began before the beginning of the 20th century, when Japanese people began to wear western dress. However, exports did not become significant until 1955, when the so-called "one dollar blouse boom" started and the US began to buy large quantities of low-priced Japanese garments. In 1955, the volume of blouse exports reached 4 million dozen, compared to 5,318 dozen in 1952. In 1956 the Japanese government imposed a quota system on exports of blouses to the US whereby shipments were limited to 1.5 million dozen per year, in order not to saturate the market. Since then, the government has repeatedly called upon the industry to carry out the blouse export business in an orderly way. Because of such restrictions on blouse exports, exporters have tried to diversify the types of wearing apparel, as well as to improve the quality of materials, designs, sewing and finishing. The "one dollar blouse", which was exported in large quantities to the US during and after 1956, has now completely disappeared from the market and today Japanese blouses of good design and high quality are favourably received by customers in foreign countries as fashion dresses. Classified by items, trousers and pants accounted for 24 percent of total garment exports in 1970, coats and dresses contributed 13 percent, jumpers 11 percent, sports shirts 10 percent and blouses only 7 percent. [J5].

Quality standards have been imposed on exports of sewn goods since 1948 when the Export Products Control Law was enacted. Based on this act, Japanese manufacturers and exporters formed the Japan Export Sewn Goods Inspection Foundation and quality testing was conducted by the government-supervised agency up to 1957. The 1948 Act was replaced by a new and more rigid one, the Export Inspection Law of 1958. The new law sternly obligates all exporters of sewn apparel to present all their cargos in advance of shipments for quality testing by the agency. Since this compulsory quality testing system was instituted, there have been no cargos of sewn apparel leaving Japan without rigorous quality tests, and complaints about quality of Japanese garments from overseas buyers have been virtually unheard of. In addition to the increased proportion of high quality goods in recent years, there has been a sharp increase in the export of clothing using materials such as jersey, tricot, and other knitted fabrics. The increase in shipments of man-made fibre goods reflects the increased demand for synthetic fibre blended goods resulting from the permanent press boom, increasing recognition by consumers of the quality of synthetic fibres, and increasing limitations imposed on exports of cotton goods. Exports of garments, especially knitwear, showed increases averaging 15 percent per year from 1965 to 1969, and total exports of garments reached \$451 million in 1969. However, export growth began to slow down in 1970, amounting to only 2 percent in that year. By 1972 exports had actually declined by 8 percent totalling \$429 million. Such declines are a result of increased prices in Japan accompanied by competition from producers of knitwear in Taiwan, Korea and Hong Kong. The US is still by far the largest market for Japanese garment exports, absorbing 70 percent of the total in 1971, while Canada and West Germany absorbed an additional 8 percent each.

Japan's imports of garments have also shown rapid increases during the last few years, especially of apparel produced from synthetic fibres. Imports increased by 122 percent from 1969 to 1970, from \$41 million to \$91 million, and by an additional 36 percent in 1971. Of the total of \$123 million in 1971, \$25 million worth of garments were imported from Taiwan, \$23 million worth from Hong Kong, \$20 million from Korea and \$13 million from mainland China. This reflects the structural changes presently being experienced in the industry throughout the region and in Japan itself. Japan is moving to the production of high-quality fashion goods and exporting less in terms of value, while other developing countries are supplying the markets for lower-priced garments in Japan and other developed countries. In 1970, the export clothing industry started a five-year program for structural improvement starting in 1972. The main purposes of the program are to thoroughly modernize production facilities and equipment, to establish a proper scale of

production through the grouping of small-scale manufacturers, and to modernize marketing through the elimination of excess middlemen. The government will provide long-term low-interest loans to enterprises wishing to achieve these aims according to the program. According to an enforcement plan worked out by the Japan Export Clothing Manufacturers Association, about 70 groups of enterprises with a proper production scale are to be formed in the coming five-year period, although there are presently as many as 710 members of the association. Labour-saving, automated sewing machines, developed by Japanese and foreign sewing-machine makers, are to be installed in such enterprises so that clothing goods of high quality may be exported at more reasonable prices. For the rationalization of transactions, manufacturers are encouraged to conduct transactions directly with overseas buyers, rather than using trading firms as intermediaries, so as to lower their prices and increase their competitiveness internationally. To help manufacturers accomplish this, the association is providing services to members and overseas buyers by acting as an intermediary, while at the same time conducting public relations work for Japanese-made clothing.

Taiwan

The garment industry in Taiwan has developed at an extremely rapid pace, and has now become the leading sector in the textile industry. The garment industry is dominated by large integrated textile complexes which manufacture everything from yarn to high-fashion garments for exports to the US. Garments, especially knitwear, have generally dominated their exports, since yarns and fabrics are used in the production of such finished goods. These firms often have licencing agreements from large US chain stores, by which they receive large orders for products designed in the US and produced in Taiwan. Typical of such developments is Far Eastern Textiles, Ltd., once a well-established company in Shanghai, which moved to Taiwan in 1949. By the end of 1966, a complete vertical organization of production plants was in effect due to constant expansion and the use of modern equipment. The complex included spinning and weaving mills, a dying and finishing plant, a terry plant, a garment plant, and department stores. In 1970 a completely new plant was established, consisting of a spinning mill and a knitting mill. The spinning mill specializes in processing synthetic and man-made fibres, while the knitting mill produces high-quality double-knit trousers, ladies' dresses and swimsuits for export. In 1972 the company bought out two smaller firms and established a third spinning and weaving mill. The major products of the firm include Ali-shan brand cotton yarns and grey piecegoods; Eastlon synthetic grey cloth; high class printed fabrics; Skyscraper and Manhattan shirts; Jantzen ladies' wear, swimsuits and doubleknit trousers; B.V.D. underwear; and towels and bedsheets. Total export of all these products expanded rapidly in recent years from \$10.5 million in 1970 to \$15.3 million in 1971 and \$24.5 million in 1972. Shirts accounted for 45.3 percent of exports in 1972, while knitwear contributed 34.1 percent, piecegoods 16.7 percent and yarn 3.9 percent. Exports are literally sent to every area of the world with major markets being America (38.3 percent), Europe (40.8 percent) and South Asia (14 percent).

In the last 10 years Far Eastern Textile has begun to invest in other fields and industries, including cement, synthetics, chemicals, transportation and department stores. Eastern Synthetics Company, Ltd. was formed by Far Eastern holding 50 percent interest and Toray Textiles and Mitsubishi of Japan holding 50 percent. It specializes in dyeing and finishing of synthetic fabrics, thus contributing to the high quality of garments produced. Far Eastern is also a major shareholder in the Oriental Chemical Fibre Corporation, which produces a diverse range of polyester products. Finally, the Fu-Kuo Garment Manufacturing Company was established in 1971 to utilize the fibres produced by other affiliates of the group. Because of its diverse products and large scale production, Far Eastern has been able to capture the market for such high-quality US brand name products as Jantzen and Manhatten. The US brand names are placed on the shirts along with "Made in Taiwan" and the finished shirts are consumer-packaged in Taiwan. These products destined for chain stores in the US provide a lucrative market for sales from Taiwan. However, since the US quota on garments was imposed in 1971, the general trend in Taiwan has been to move to markets in Europe and the Middle East. The allocation of the quota on synthetic textile products by firm is based on export shipments sent between March 1970 and September 1971. In the first year, each firm is allowed to increase its exports by 10 percent and the second by 9½ percent. The third year's increase is limited to 9 percent, while in the fourth year, exports can only increase by 4 per-

cent. By the fifth year no increase is allowed at all, but the quotas may be renegotiated. Firms in Taiwan which experienced rates of increase much higher than 10 percent per annum preceding 1971 have begun to slacken production. However, export markets in the world for garments have been expanding, and the industry is still producing at nearly full capacity. Exports of all types of garments reached \$398.7 million in 1972, an increase of 18 percent over 1971.

Korea

The export of garments from Korea was initiated in 1962 in the form of low-priced finished goods, destined for the US market and produced from US raw materials. The garment industry has made great strides in both production capacity and quality since then, and exports are now reaching over 30 countries. Exports of textile and knitted garments amounted to over \$305 million in 1972, accounting for over 58 percent of total textile exports. The growth rate of exports in non-knit garments has averaged 51 percent per year from 1966-72, while exports of knitwear have been growing at 60 percent per year over the same period. These figures rank garments as the fastest growing export category in Korea over the last seven years. Exports of knitwear were showing continued strength in early 1973, with exports up 90 percent in January over January 1972. Having started with the production of cotton underwear, the garment industry of Korea is now supplying all types of synthetic and natural fibre garments to markets all over the world. There are more than 10 large manufacturers, several of them joint-ventures, which possess the necessary facilities to produce permanent press apparel. Products for export range from hosiery and underwear to shirts, trousers, blouses, raincoats, sportsmen's wear and so on. Major export markets include the US, Canada, Japan, UK, Panama, West Germany, France and Australia, and prospects are bright for future enlargement of markets. Demand for ready-made garments is increasing all over the world as a result of increases in income and in population. In Korea, where an ample supply of skilled labour is available at relatively low wage-rates, production of labour-intensive products is encouraged, while in highly industrialized countries the industry is gradually declining due to high labour costs. Korea is still engaged primarily in the production of low-priced garments for mass markets and chain stores in the US rather than in high quality fashion products.

The largest exporter of garments and second biggest exporter in Korea is the Dae Woo Industrial Company which was founded as recently as 1967. Exports doubled from \$25 million to \$50 million during 1971 to 1972, and 100 percent of production was exported. Production capacity for ready-made garments has reached 250,000 dozen per month, including men's, ladies', and children's items. This firm has been buying out smaller producers of garments in the past few years, enabling it to increase production so rapidly. The firm now has at least 10 factories producing yarn, piece-goods, knitted garments, and textile garments, and has branch offices in eight countries. Major export markets for garments are the US, Japan, Europe, Canada, Australia, South America and Africa. Piece-goods are sent to Southeast Asia and Africa. The US quota is allocated to such companies by the Korean government by item according to past performance. Exports to the US market are allowed to grow, but at a much slower pace than before. Whereas 90 percent of a firm's exports may have been sent to the US in 1971, the proportion will decrease to perhaps 50 percent by 1973. Most of the Korean manufacturers are attempting to shift their export markets from the US to Europe.

Singapore

Before World War II, Singapore had one of the most advanced garment industries in the Southeast and East Asian region, and Singapore's Garment Association has been in existence since 1938. During that period Singapore was the only exporter of garments, mainly work shirts, to Indonesia, Malaysia, Thailand, Burma, New Guinea and the Middle East. After the war, however, the garment industry in Hong Kong expanded tremendously, especially when Chinese from Shanghai and Canton began moving to Hong Kong in 1949. By 1950, with the help of advanced techniques from China, the industry in Hong Kong first surpassed that of Singapore. During the Korean War, Hong Kong's industry expanded further, due to proximity to Korea and to wages which were much lower than in Singapore. However, since 1964 wages in Hong Kong have been higher than in Singapore and Taiwan and the industry has slowed down considerably. When Singapore separated from Malaysia in 1965, and became a free port, Hong Kong began to invest heavily in

the Singapore textile industry, in order to get around quota restrictions imposed on the Hong Kong industry. Taiwan's industry is now much larger than Hong Kong's, and those in Singapore and Korea have been rapidly catching up in the last five years. Such heavy competition has been somewhat difficult for all the countries involved due to price-cutting and dumping on markets in the US and Europe. Singapore is still the only Southeast Asian country which can compete with the big garment producers in East Asia. One advantage that the East Asian countries have over Singapore is that they have built up some accessory factories which produce fibres and fabrics. Singapore and other Southeast Asian countries still have to depend on imported raw materials.

The garment industry is generally controlled by large multinational companies with capital investment from Japan, the US, the UK, Hong Kong, or other Southeast Asian countries. In fact, the only large Singapore firm which is 100 percent locally-owned is Union Garment, which started as a family business, and was incorporated in Singapore in 1963. The owners of this firm have now determined to invest in other large multinational companies in both Malaysia and Singapore, besides their own four factories. The company now produces shirts, jeans, pants and jackets from nylon, wool, teteron, cotton, knits, and other synthetics, according to orders from abroad. In 1972 they exported 90 percent of their production (amounting to \$3 million) to Japan, Australia, New Zealand, Europe and the US. As is the case with other commodities, Singapore and Malaysia are more oriented to European and Australasian markets than are Korea and Taiwan, which produce mainly for the US market. Union Garment imports most of its materials from Europe and Japan, although purchases from Korea, Taiwan and Hong Kong are increasing. One of the main difficulties which the garment industry is facing at present is the procurement of raw materials, since most of the needed fabrics are not available in Singapore. The present world shortage of cotton has pushed prices up rapidly since late 1972, and wool and unusual materials are becoming expensive and difficult to find. In addition, synthetic fibres and fabrics from Japan have become very expensive due to the revaluations of the yen. For these reasons, Singapore is turning more and more to Taiwan and Hong Kong as sources of supply for synthetics. The garment industry in Singapore is under relatively strict control of the government, due mainly to quotas imposed by the US and the UK. The government Trade Division allocates quotas to firms according to past performance, with a small allowance for annual growth to these two markets. In addition, the government strictly controls the entry of new firms into the industry, and requires licences for any firm which employs over 25 people. Leaders of the industry in Singapore are hoping for eventual co-operation among the industries of Southeast and East Asia in order to present a united front in bargaining with the US and the EEC. Co-operation among countries such as Taiwan, Korea, Hong Kong, Japan and Singapore should lead to a lessening of cut-throat competition and more reasonable quotas from the US.

Malaysia

The garment industry in Malaysia is just beginning to produce large amounts of apparel for export from factories located in bonded zones producing 100 percent for export. Many of such firms are located in the Penang-Ipoh area, and exports are sent from Penang. Almost all of the fabrics and piece goods are imported from Japan and Hong Kong, while accessories can be obtained domestically. However, because of bonded warehousing, all materials can be imported duty-free, keeping export prices relatively low. The garment industry is characterized by foreign investment from Hong Kong, Japan and Singapore, which have also contributed technical know-how and marketing assistance. There are several firms with similar characteristics located in the Ipoh-Penang area, producing knitted garments, particularly under-wear, ladies' garments such as blouses and pajamas, and men's shirts and jeans. This follows the pattern which has been experienced in Japan, Taiwan, and Korea. One such firm is Imperial Garments, which was founded by a holding company with Filipino and Japanese shareholders in 1969. Pacific Mills of the Philippines has invested in the firm, as well as Shinko Sanyo of Japan, which also supplies textiles and buys finished garments from Imperial. The holding company also controls three other garment manufacturers and a spinning and weaving mill. Imperial really just began to export in 1972, with a total of 71,500 dozen garments worth \$1.2 million. Because the company recently began exporting, it is not included under the US quota, and therefore exports almost entirely to Europe, especially Scandinavia. So far the world market has been good for this company, and it is now producing 30,000

dozen garments per month, five times its production in 1972. The lack of the US export quota has not hindered the firm from producing at full capacity, due to increasing European demand. Other garment firms which were founded in the mid-1960's as joint-ventures with Hong Kong have been able to take advantage of the US quota. The Malaysian government has allocated the quota among firms strictly according to past performance, and thus those firms which were exporting in 1969 and 1970 have obtained the largest portions of the quota. Firms such as Eastern Garments and Dragon and Phoenix in Penang have obtained some of the largest quotas and thus export most of their production to the US. In the long run, however, it may be better for Malaysia and Singapore to concentrate on the European market.

Thailand

The garment export industry in Thailand is just getting started, following the pattern of countries in East Asia. At present, most exports are confined to low-priced products (socks and blouses) for chain-stores in the US, such as J.C. Penny and W.T. Grant. However, one small sector of the industry is producing high-fashion ladies' wear made from luxury fabrics such as Thai silk for an exclusive international market. Bangkok Nylon Company, established in 1964, was the first large manufacturer of synthetic textiles in Thailand. The company began with 20 knitting machines and an annual capacity of 200 tons of various nylon products. Now much of its nylon production is utilized by a sister company, Toray Thai Nylon, which produces 180,000 dozen pairs of panty hose per year, partially for export. Most of the other large firms producing garments concentrate on similar products such as socks and gloves, mainly for the domestic market. The most successful garment manufacturer in Thailand, especially in foreign exchange terms, is the Thai Garment Export Company, which was just established in 1970 with 50 percent investment from Japan and Hong Kong. The firm exports 100 percent of its production and thus can import most of its raw materials duty-free in a bonded warehouse-type arrangement. The firm is exporting shirts, pants, ladies' wear, nightwear and swimwear to large US firms such as Montgomery Wards and Alexanders. However, since exporting had only begun in 1971, amounting to \$3.6 million in that year, the US export quota for Thailand is very small. The US imposed a quota for an export of only 17,000 dozen pieces of nightwear, which the company can produce in three weeks. Because of such export restrictions and because it was not allowed to sell on the domestic market, the firm was producing at only 60 percent of capacity in 1971. However, capacity reached 95 percent in 1972 and total exports for January through October 1972 amounted to \$10 million, a very high figure for an infant industry. Markets were expanded to include Japan, Canada, Denmark, and Switzerland. Markets should remain open to Thai garments which are produced with duty-free raw materials, since prices are lower than Singapore and Hong Kong. The garment industry is already leading the current textile export boom. In 1972 the apparel and clothing account showed a huge surplus with exports at \$12.5 million and imports at only \$1.4 million. In 1973 it is expected that exports of garments will reach almost \$30 million.

The other type of garment which is making inroads into the international market is fashionable ladies' wear made from high-quality Thai and imported fabrics. Design Thai and Star of Siam are sister companies which were established with 100 percent foreign investment more than 10 years ago. Design Thai produces exclusive silk, cotton, and synthetic dresses designed by foreigners working in Thailand. Silk fabrics are obtained from Star of Siam, which has now expanded to the actual production of silk worms. High fashion dresses are shipped by airplane to branches of Design Thai in New York, Hong Kong and Tokyo or to fashion centres in Paris or England. Because the raw materials are imported by airplane, and the finished products are exported in the same way, it is much easier for the firm to receive its refund on imported raw material duties than for other firms. Apparently, the airport customs is much more efficient than the port customs, due to the much smaller amount of export goods going through the airport. Exports from Design Thai are small in number due to the orientation toward high-price line products. However, the value of exports has been growing at an average of 35 percent per year during the past two years, reaching \$800,000 in 1972. The firm hopes to begin to produce a much larger quantity of silk in order to appeal to lower-price markets for garments such as men's silk shirts. When dealing only with luxury goods, the market depends too much on the economic situation prevailing in developed countries.

The Philippines

Garments production, one of the oldest commercial endeavours in the Philippines, is only now coming to life after long years of being in the doldrums. Pre-Spanish Filipinos were known to be expert weavers, and the richly embroidered clothing used by the Filipino nobility was the subject of barter trade in the 14th and 15th centuries. Although the Spanish introduced improved methods of embroidery, it was the Americans who first took note of the economic potential of Filipino garment production. In the early 20th century the manufacture of garments was highly encouraged, and garments were given preferential trade treatment in the US during the 1920's. Through a process of evolution, the emphasis has shifted from pure embroidery export items to lower-priced garment manufacturers to meet the demand in the US market. At present, the embroidery and garment industry exports lingerie and ladies' underwear, infants' wear, handkerchiefs, gloves, shirts, trousers and uniforms. [P4]. In 1972 there were approximately 1,000 garment and embroidery factories in the Philippines, of which 57 are under the supervision of the Embroidery and Apparel Control and Inspection Board. There are 30 to 40 manufacturers of large size and many more medium-sized concerns. Of the large garment factories, three are integrated textile mills and 24 have knitting facilities. Aside from these firms, the industry largely consists of provincial cottage-scale enterprises catering to the domestic market.

Embroidery and garment factories operating under the Embroidery Board generally utilize the consignment system for trade. By this system, raw materials including fabrics and trimmings are supplied by the ultimate importer abroad. The consignment system has been in practice since the early part of this century, partly due to the inability of the Philippine textile industry to supply high-quality fabrics in sufficient quantities. There are now several manufacturers of garments who are producing for the US market from imported textiles, in order to take advantage of cheap labour in the Philippines. One of these firms is Gelmart Industries which is 100 percent US-financed and was founded in 1953. The firm is not yet producing outer garments, but is limited to nylon hosiery, children's wear, ladies' underwear and knit gloves. Gelmart exports 75 percent of its production (\$2.8 million in 1972) to markets such as the US, Japan, Singapore, Italy, Sweden and West Germany. Almost all raw materials, including cotton piece goods and synthetic fibre, are imported, mainly from the US, Japan and Taiwan. Generally the US and Japan will send the raw materials to Gelmart, and Gelmart then produces according to specifications from the buyer. Another company which works on a consignment basis is Garment Exports, Inc., which was started with 100 percent local investment in 1952. The firm produces ladies' and men's wear such as pants and jackets, and infants' wear, and exports all of its production. Companies such as Mitsui and Kowa of Japan and Speigel and Montgomery Wards of the US consign raw materials to the firm, which produces garments according to their specifications. The firm is just beginning to build up production, however, due to its suspension of operations by the Embroidery Board of the Philippines during 1962-69. Exports amounted to only \$35,000 in 1970, but climbed to \$581,000 in 1972.

Philippine garment exports have risen rapidly, but more spectacularly during the past two years, as a result of the BoI's choice of garments and electronics as the industries it will aggressively promote. In 1966, total garment exports amounted to \$94,600 and in 1967 to \$109,300. In 1968 exports fell to \$67,000 and remained stagnant in 1969. In 1970, following the peso devaluation, garment exports came back to life, amounting to \$155,900, and jumped further to over \$200,000 in 1971. Last year, garment exports hit a record high of \$1.9 million. However, this amount is still minuscule compared to exports from Hong Kong, Korea and Taiwan, which together account for 60 percent of the US market. Although the Philippines enjoys favourable quotas for garment exports to the US, these have been dreadfully under-utilized from 10 to 100 percent. If the unused quotas were to be fully utilized, garment exports would amount to \$150 million a year to the US alone, according to UNIDO textile expert Abraham L. Garfinkel. Part of the difficulty stems from the lack of co-operation within the textile and garment industries themselves. Since factories under the consignment system operate as bonded warehouses, no import tax or duty is paid on materials imported. This system has always been an irritant between the textile mills and garment

Table 5.5: Japanese imports of some categories of garments

1971; \$(US)'000 and percent

	Knit & crochet garments	Outer garments, men	Outer garments, women	Under garments, men	Under garments, women	Total
<i>from:</i>						
Hong Kong	18,934	1,887	1,847	76	21	22,765
Republic of Korea	14,307	1,004	509	621	63	16,504
China (Taiwan)	16,105	2,340	750	3,295	325	22,815
China (People's Rep)	3,735	1,101	5,414	426	423	11,099
Malaysia	13					13
Philippines	36	10	104			150
Singapore	455	15	30	1		500
Thailand	3	1	35	1		40
Indonesia	1	6	4	1		12
Total, 9 countries	53,589	6,364	6,341	4,421	832	73,885
Total, world	80,606	9,737	11,553	4,529	930	107,355
% of world total	66.5	65.4	54.9	97.6	89.4	68.6

Source: JETRO, Trade Opportunities in Japan no. 2 (textiles), July 1972, pp. 20-27.

Table 5.6: Exports and imports of knitted outer garments and women's outer garments not knitted

	Exports			Imports		
	1969	1970	1971	1969	1970	1971
Australia	2,345	3,271	3,546	13,880	19,033	23,523
Japan	77,021	92,264	78,162	27,254	57,855	60,224
New Zealand	606	1,041	1,079	987	991	1,103
Korea	88,647	105,644	159,436	163	103	27
Taiwan	70,596	105,189	148,307	32	62	45
Malaysia	854	1,137	1,983	3,540	3,180	2,152
Philippines	95	99	230	—	—	—
Thailand	578	594	2,091	3,296	2,281	1,307

manufacturers, as the former claim that some of the tax-free imports make their way into the domestic market. However, since the imposition of martial law in September 1972, Philippine textile mills have been able to sell 100 percent of their production, which has decreased competition among the textile mills.

Besides local problems, garment producers also have to contend with foreign competitors. The US has not yet imposed any limits on exports of garments from the Philippines made of synthetic fabrics, whereas the US has imposed such quotas on other Far Eastern countries. Logically, garment producers in these countries (Hong Kong, Taiwan, Korea and Japan) would come to the Philippines and establish manufacturing operations with the US as the main market. Already 27 foreign companies have applied with the Export Processing Zone Authority to establish garment or textile plants inside the country's first foreign trade zone in Bataan. The existing domestic garment indus-

try will thus be forced to improve its efficiency and lower its prices in order to compete with firms in the processing zone. Chances are this cannot be achieved without co-operation with local textile mills. To this end, the BoI has been in constant dialogue with the millers and garment manufacturers to arrive at a workable scheme for procurement of local textiles by the garment producers.

Footwear

Footwear is becoming a very good potential export industry in the developing countries of the Pacific Asian area due to the rapidly increasing demand in developed countries and the labour-intensive nature of the manufacturing process. Because of rapidly-changing styles, especially in women's shoes, it is generally not feasible to use mass production techniques, except for uniform styles, such as tennis shoes. Machinery cannot be changed rapidly enough to adapt to changing styles, tastes, and sizes. Thus, much of the work must be hand-done by skilled labourers, and the labour cost becomes a large component of manufacturing costs. As labour costs become increasingly high in industrialized countries, it becomes more economical to import shoes than to produce them domestically.

The US market.— In the early 1950's the US, the world's largest market for footwear, discovered that Japan was an efficient and reliable supplier of low-priced shoes, such as those sold in the large "discount" chain stores in the US. During the 1960's, as wages began increasing in Japan, the US started looking for new suppliers for the low-priced categories of footwear. Taiwan and Korea have increasingly supplanted Japan as the major suppliers of low-priced shoes (f.o.b. prices, averaging about \$(US)1.00 a pair). For example (see Table 5.8), the share of Japanese exports in the US market decreased from 66.9 percent in volume terms and 32.9 percent in value terms in 1965, to 14.6 percent and 6.9 percent respectively in 1972. Over the same period, the share of Taiwan in the US market increased from 5.5 percent to 29.9 percent in volume terms and from 0.9 percent to 10.9 percent in value terms. It is obvious from these figures that both countries are still suppliers of the lowest price categories since their volume share is much larger than the value share. Also obvious is the fact that Taiwan has actually outstripped Japan in a market which Japan entirely dominated as recently as 1965.

The Japanese market.— Presently Japanese manufacturers are curtailing production of footwear and the industry is producing at about 70 percent of capacity. Japanese prices, especially after the revaluation, are no longer at all competitive with Taiwan and Korea on the export market. The Japanese, as the US before them, have now found it more economical to import certain categories of shoes than to produce them domestically. Whereas exports of footwear from Japan declined in value from \$135 million in 1971 to \$85 million in 1972, imports increased from \$13.8 million to \$23.6 million. Approximately one-fourth of total Japanese imports are of skiing shoes from Italy and Australia. However, Korea, Taiwan and Hong Kong are the largest suppliers of Japanese import demand for plastic, rubber and canvas shoes. It is probable that Japan, which has built up a tremendous footwear industry, will move into the high-priced categories, producing for more fashion-conscious markets. We might expect these trends to go a step further in future years. As wages rise in Korea and Taiwan, the market for the low-priced categories will be increasingly supplied by Southeast Asian countries which supply efficiently and cheaply — perhaps Malaysia and the Philippines. [J4, No. 4].

Europe.— Southern European countries, especially Italy and Spain, are the main suppliers of the high-priced categories (f.o.b. price \$4 to \$5 a pair) to the US market, and their shares of both volume and value have increased steadily from 1965 to 1972 (see Table 5.8). However, wages are increasing so rapidly in Europe that the footwear industry is beginning to suffer. Since businessmen no longer want to invest in this business, it is being slowly phased out. Competition for the high-priced categories to the US market is being felt from Brazil and Japan. The Europeans, especially Germany, are looking increasingly to imports of inexpensive, synthetic shoes from Taiwan

and Korea to meet their own domestic needs. Italy will probably continue to supply a large part of the fashion market for high-priced shoes, but her share of the total world market for shoes will undoubtedly decline.

Tariff considerations.—Taiwan and Korea have found increasingly expanding markets in the US, Canada, the EEC, Australia and Japan. Some developed countries, notably the EEC and Australia, grant preferential tariff rates for import of certain types of footwear from developing countries. However, the US has adopted a more restrictive posture, especially as concerns rubber and PVC chemical shoes. On such items the US bases its tariff rate on the American Selling Price (ASP). This is the price on an equivalent pair of shoes produced domestically in the US. Since production costs are high in the US, the tariff will be much higher than if it were levied on an *ad valorem* basis on the C & F price from, say, Taiwan. In addition, the US has instituted a "self control quota system" which fixes the annual rate of growth of certain types of footwear imports. This control system restricts the growth of imports of rubber shoes to 20 percent a year and of canvas shoes to 15 percent a year. Although not an official quota, this does restrict exports from the developing countries, especially to large chain stores, whose demand is practically unlimited. In Japan, import of leather shoes are subject to an import quota system.

Suppliers in the Pacific Asian region

East Asia.— The major exporters of synthetic resin shoes are Hong Kong and Taiwan. In these countries, many companies have vertically incorporated production processes which are generally modern. As of 1967, there were 167 companies in Hong Kong, all small-or medium-sized. These firms are working with an international level of technology, and they are exporting a considerable number of shoes to Europe and the US. In Taiwan, there are reportedly 36 manufacturers of cloth shoes and all-rubber shoes, and 120 manufacturers of synthetic resin shoes, including sandals. Two of these firms are large and are exporting in volume to the US and other countries. Most manufacturers are export-oriented, with approximately 60 percent of the cloth and rubber shoes and 80 percent of the synthetic resin shoes being exported. Taiwan is still the lowest price supplier of footwear to the US, and the total value of Taiwan's exports in 1972 amounted to over \$150 million. The major market for Taiwan's shoes is the large US chain stores which specialize in "discount" merchandise, such as J.C. Penny and Zayre Department Stores. One of Taiwan's largest manufacturers of imitation leather (PVC plastic) shoes produces entirely for the export market, with a production capacity of 10,000 pairs per day. This firm was established by several small-scale footwear manufacturers in 1965 when they realized that Japan's export business was very good. The manager of the firm feels that they industry is an excellent one for developing countries, since the market is very accessible to any efficient, reliable, low-cost producer. The main advantage Taiwan has over competitors such as Korea or the Philippines is that almost all of the raw materials (notably PVC) are available domestically. Although raw materials prices are rising, Taiwan does not have to depend on imported raw materials, which may be more expensive. The only thing that might hurt Taiwan's competitive position is the recent revaluation of the currency against the dollar, which has decreased Taiwan's dollar earnings.

Korea's position is almost as favourable as Taiwan's although the industry is as yet much smaller than that in Taiwan. In Korea, large manufacturers are producing rubber and cloth shoes with automated facilities. Many manufacturers have business or technical tie-ups with Japanese manufacturers. Some buyers are switching to Korea (especially those who used to buy from Japan) and the annual increase in Korea's exports of footwear have been tremendous (over 60 percent a year over the last several years). Although wages in Korea are low, the country has to import almost all of its raw materials (especially PVC plastic). This makes Korea's unit price for export slightly higher than that prevailing in Taiwan. In spite of the competition, Korea's exports to markets in Europe, Japan and Australasia have been excellent. In addition to synthetic and PVC shoes, Korea has been moving into the market for specialty footwear. The Olympics Athletic Company signed a contract in early 1973 to send 20,000 pairs of ice skates worth \$70,000 to Scandinavia. In 1972 the company exported about 80,000 pairs of skate-shoes without blades for the first time to the Netherlands. The firm has a monthly production capacity of 10,000 pairs and plans to export \$200,000 worth in 1973 to the US, Canada, Japan and Europe. The Esquire Shoe

Table 5.7: Exports and imports of footwear

	Exports			Imports			1969-71; \$(US)'000
	1969	1970	1971	1969	1970	1971	
Australia	528	843	1,112	11,857	17,263	19,353	
Japan	124,034	129,810	135,329	4,787	8,000	13,778	
New Zealand	273	270	280	1,624	1,748	1,945	
Korea	10,479	17,267	36,429	45	42	244	
Taiwan	28,336	50,909	96,912	20	33	34	
Malaysia	1,716	1,475	n.a.	1,794	1,057	n.a.	
Philippines	554	1,041	789	53	61	13	
Thailand	11	11	21	1,439	1,522	691	

Table 5.8: Share of four major suppliers in US imports of footwear

	1965-72; Quantity '000 pairs; Value \$(US)'000										
	Italy	% of total	Spain	% of total	Taiwan	% of total	Japan	% of total			
1965	Q	23,595	13.4	2,619	1.5	9,731	5.5	117,976	66.9	176,308	100.0
	V	54,571	34.0	6,693	4.2	1,460	0.9	52,833	32.9	160,455	100.0
1968	Q	59,685	21.8	14,409	5.3	18,498	6.8	125,913	46.0	273,376	100.0
	V	158,146	40.9	47,815	12.4	15,008	3.9	79,712	20.6	386,547	100.0
1970	Q	81,588	24.6	21,583	6.5	59,604	17.9	108,770	32.7	332,186	100.0
	V	269,362	43.0	78,378	12.5	39,998	6.4	92,953	14.8	627,110	100.0
1971	Q	79,304	21.6	31,824	8.7	88,701	24.2	94,630	25.8	366,975	100.0
	V	288,164	37.8	125,818	16.5	68,399	9.0	95,580	12.5	761,922	100.0
1972 (1-9):	Q	64,829	21.1	31,288	10.2	91,864	29.9	44,859	14.6	307,091	100.0
	V	264,940	40.0	132,121	18.9	76,092	10.9	48,025	6.9	691,668	100.0

Source: Data Supplied by Japan General Merchandise Exporters Association.

Table 5.9: Total footwear imports of the US and price per unit

from	1971 (1-12)				1972 (1-9)	unit price in 1972 \$(US)/pr.
	'000 pairs	'000 US\$	'000 pairs	'000 US\$		
Japan	94,630	95,580	44,859	48,025	1.07	
Korea	22,216	27,543	24,870	32,024	1.29	
Taiwan	88,701	68,399	91,864	76,092	.83	
Italy	79,304	288,164	64,829	264,940	4.09	
Spain	31,824	125,818	31,288	132,121	4.22	
Brazil	8,621	23,771	8,740	29,133	3.33	
Total	366,975	761,922	307,091	697,668		

Source: Data supplied by Japan General Merchandise Exporters Association.

prices and increased competition, exports from the Philippines have been decreasing slightly in the last few years. However, the footwear industry is still considered a good business there, especially for the future. Philippine export of higher-priced leather footwear have been growing by some 60 to 70 percent per year for the past five years and are produced on a cottage industry basis. Because of extensive western influence in the Philippines, the country is able to produce styles which are very popular in Europe and the US. The problem presently is raw material shortage, especially of leather. However, some consuming countries, such as Germany and the US, are willing to furnish leather to-producers in the Philippines. This is a good arrangement since the value-added in the Philippines comes almost entirely from labour in a labour surplus country.

Chapter 6

Obstacles to the export of strategic commodities

At present, overall export prospects in the region are quite good, due to world-wide shortages of many primary and intermediate goods, resulting in high export prices. Exports from the East Asian member countries as a whole increased by 41.7 percent in 1972 over 1971, and from South-east Asian members (excluding Vietnam) by 9.7 percent. This is well above the 1966-72 average for both sub-regions. However, manufacturers particularly from Southeast Asia are still faced with grave difficulties in exporting their processed and manufactured commodities. Although Taiwan and Korea also face certain problems, their overall export performance during the last decade has been spectacular. The difficulties that the East Asian members face are on a much more sophisticated level than in Southeast Asia. The basic problems of transportation facilities and government policies have been solved; the businessmen of East Asia are now more concerned with solving international marketing problems. An assessment of the major difficulties perceived by the entrepreneurs in ECOSEN member countries is discussed below.

The sample

In order to assess the difficulties which businessmen perceive, ECOSEN carried out a survey of businessmen producing the 20 commodities constituting our preliminary list (see Table 2.2). Samples of 40 to 45 producers of these commodities were interviewed in five countries — Taiwan, Korea, Thailand, the Philippines and Malaysia. A more limited survey of businessmen was carried out in Japan, Singapore and Vietnam. The total number of firms on which this discussion on obstacles to export is based is 175. Although a total of 237 firms were interviewed, 61 of them are producing commodities which we eliminated from our final list of strategic exportables (see Table 2.5). Of the final 175 firms producing 18 commodities, 138 (or 79 percent) are predominantly locally-owned, of which 107 are totally locally-owned. Thirty are predominantly foreign and seven are 50/50 joint-ventures. The break-down of firms by country according to ownership shares is presented in Table 6.1

Although the commodities represented by these firms range from processed primary products to resource-based intermediate products to finished consumer goods, our survey is generally biased in the direction of successful exporters producing commodities using mainly domestic raw materials. This is the result of two factors: the commodity lists submitted by each government were oriented to products utilizing local raw materials and saving foreign exchange; and, Dr Murakami's standards for choosing commodities included coefficient of specialization often based on the local availability of raw materials. We feel that this is a valid bias, although we recognize that Japan and Taiwan have achieved great success in producing exports from imported raw materials utilizing cheap domestic labour. The bias relating to successful exporters is a result of the manner in which the sample firms were chosen. Generally, the Ministries of Industry or Commerce, Investment Boards and/or local Chambers of Commerce selected firms which produce and export our chosen commodities. Those firms which are well-known to such institutions are the ones which have already been successful in export or which are aggressive enough to deserve the attention of government and private agencies. We feel that if these successful firms are facing difficulties in export, the less successful firms are probably in a worse situation. In spite of these biases, we feel that the obstacles perceived by the businessmen included in the survey do give a good indication of the general difficulties encountered in exporting from Pacific Asian countries.

Table 6.1: Firms included in analysis of obstacles

	Predominantly locally-owned	Predominantly foreign-owned	Fifty-fifty ownership	Total firms
Korea	24	4	2	30
Malaysia	25	10	2	37
Philippines	29	6	—	35
Taiwan	26	—	1	27
Thailand	20	8	2	30
Vietnam	7	1	—	8
Singapore	7	1	—	8
Total	138	30	7	175

Table 6.2: Ranking of ten major obstacles

Rank	Obstacle	Number of responses	Percentage of total firms
1	Difficulties with local raw materials	73	42
2	Inadequate number of ships and sailings	46	26
3	High freight rates	45	26
4	Keen competition among countries of the region	45	26
5	Import restrictions in foreign countries	33	19
6	Unusual discrimination — export tax, quota	28	16
7	Red tape in trying to export	26	15
8	Labour problems	23	13
9	Prices too high to be competitive	22	12.5
10	Poor port facilities	19	11

Obstacles to export

The major obstacles to export which the businessmen perceive have been classified into five categories of the export process — government policies, production, finance, transportation and marketing. The replies of businessmen were tabulated by country and by industry and then aggregated for the firms as a whole. Table 6.3 contains the responses of businessmen by industry in both Asia and Southeast Asia concerning obstacles facing them. A summary of the 10 major obstacles facing all 175 businessmen is presented in Table 6.2. In general, the major obstacles facing the East Asian and the Southeast Asian countries separately are the same as the ones for all countries. However, the relative importance of each obstacle differs between regions. Among the 10 major obstacles mentioned most often by all businessmen, two arise from the production category, three from transportation, three from marketing and two from government policies. Finance does not present any major obstacles to these firms.

Production problems

Raw material supply.— Forty-two percent of the firms interviewed mentioned local raw material supply as a major constraint to export. This includes problems with high costs, low quality, or insufficient supply of local raw materials. This is a result of the orientation of the survey towards firms using local raw materials. It is often the case that if a country is rich in certain resources and a few businessmen have become wealthy by exploiting those resources, an excess of emerging entrepreneurs will follow their lead and begin to exploit the same resource. This leads to over-exploitation and a depletion of supply. For example, two of the major groups of firms interviewed were in the fields of plywood and frozen seafoods. Both of these commodities depend on limited supplies of local raw materials, and alone they accounted for 33 of the 73 responses concerning raw materials. As for plywood, timber constitutes an essentially non-replaceable resource, especially in the short run. Replanting of forests in Southeast Asia has been sporadic

and these countries still depend on their formerly abundant supplies of timber. Thailand and West Malaysia have restricted cutting of timber and the Philippines is planning to ban the export of logs within the next three years. However, these restrictions have been instituted to preserve forests for the local processing industry and in the long run the supply problem in Southeast Asia should not be too severe. However, Taiwan and Korea are turning to Burma and Indonesia as suppliers. When domestic industries are built up in the latter countries, they may restrict exports of logs. In order to solve domestic wood shortages in Southeast Asia, these countries must reorganize their industries in order to get full utilization of the limited raw materials for use by local processors.

As far as seafood (especially shrimp) is concerned, large and increasing US and Japanese demand over the last several years has caused a rush of entrepreneurs into this lucrative business and consequently an over-fishing of the waters of Southeast Asia. Shrimp and lobster supplies are seriously depleted and no effective measures for farming shrimp have yet been devised. Many fishermen have turned to unethical methods such as dynamiting the waters to exploit the limited supply that remains. Although there are no problems on the demand side, the supply constraint will remain until producers in the area can reorganize their fishing methods. At present the number of fishing trawlers with refrigeration facilities is limited. Thus, much of the catch has to be discarded due to spoilage. Governments might provide assistance to fishermen through research on shrimp farming and the provision of refrigerated trawlers. In addition, it would be in the best interests of businessmen to improve the facilities of a fishermen and especially to discourage them from using unethical practices which are destroying all the seabeds which remain. Prospects for deep-sea fishing of tuna and mackerel in East Asia are better, but the difficulties in obtaining sufficient supply remain, due to an inadequate number of ships capable of deep-sea fishing and the large investment involved in expanding the fleet. Similarly, the fruit and vegetable canning industry registered nine complaints in this area, mainly from pineapple canners in Southeast Asia. This industry should be able to solve its own problems, judging from the tremendous success which Taiwan has shown in exports of canned goods. Taiwan has much less land area than the countries in Southeast Asia, and yet her problems with reliable and consistent supply for the canneries are much less severe than in the latter countries. Often the canneries in Southeast Asia depend on supplies delivered from small farmers, a somewhat unreliable source. The canneries must develop their own plantations and techniques geared to a year-round supply of standardized agricultural commodities. Of course, shortages may result from unfavourable weather conditions, but difficulties are minimized when the canneries control their own sources of supply.

Businessmen entering industries which depend on limited supplies of raw materials must be aware of possible supply problems and must carry out thorough feasibility studies before embarking on such a venture. It is all too clear that many entrepreneurs have rushed into an industry for quick profits without first considering fully the availabilities of raw materials. This type of industry in Southeast Asia would be much more successful if there were fewer firms operating on a larger scale which could organize the sources of supply. This raw material problem is a result of inadequate research and inaccurate investment decisions on the part of the businessmen themselves. Thailand alone now has enough production capacity to supply one-third of the world's demand for canned pineapple. Not only is it doubtful that Thailand could capture such a large share, but it is also impossible to produce at full capacity with the limited amount of pineapple available. In addition to measures which much be carried out by businessmen themselves, the government should render assistance to producers within the framework of an overall export strategy. Such assistance might include the setting up of producers' associations, cooperatives and marketing boards. The modernization of agriculture is an essential ingredient of development, which must be accomplished simultaneously with industrial development, especially in a predominantly rural nation.

Labour.— The only other production problem that ranks as a major obstacle is labour problems — lack of skilled and/or reliable workers and high costs of labour — mentioned by 13 percent of the respondents. Malaysian manufacturers complain about the high wages prevailing there — much higher than in Thailand or the Philippines. Some Thai manufacturers complain of low productivity,

while others in the area mention the unreliability of workers. In Singapore and Taiwan, a shortage of manpower is being felt, although the workers available are generally reliable and efficient. However, problems with labour are relative, and the generally low cost of labour in Southeast and East Asia gives the region a comparative advantage over other regions in the world. The difficulty ranks number eight in our survey and is thus not one of the top constraints to export. During the import substitution eras which have been experienced to some degree in most of the countries in our survey, labour skills and entrepreneurial ability are developed. As the countries move into higher stages of development and begin to depend on non-agricultural exports as an engine of growth, labour skills will be enhanced. As more workers are brought into factories, problems with low productivity and unreliability will probably diminish.

Transportation problems

Three transportation problems are considered to be major obstacles by the businessmen interviewed in the Pacific Asia region. The most crucial are: "Inadequate number of ships and sailings to foreign ports," and "high freight rates," both mentioned by approximately 26 percent of the firms interviewed. These two obstacles rank as the second and third most important, and thus must be considered as major constraints to export from the area.

Inadequate number of ships.— It is significant to note that manufacturers in Singapore, Taiwan and Korea were not particularly concerned about the first problem, due to the large size of their ports and frequent sailings to every part of the world. It is mainly a problem in Thailand, the Philippines and Malaysia. The reason for an inadequate number of ships is partly due to the small size of fleets in Southeast Asia and partly due to the relatively small size of cargoes to be shipped. The Southeast Asian countries (aside from Singapore) are at the mercy of the conference lines which are not yet able to guarantee the exporters either space or frequent sailings. The ships may wait in port until they are full. Because of the generally small amount shipped by individual exporters, it may take quite some time to fill up a ship heading for certain European or Middle Eastern ports. Because of these difficulties exporters in the area have gained a reputation for unreliability on quality terms (spoilage) and on time deadlines. Such difficulties hamper possibilities of securing new markets in areas such as Africa. In addition to the infrequency of sailings, Malaysian exporters mentioned that by the time ships reached harbours in Penang and Klang they were already full after having loaded to capacity in Bangkok. These problems should be soluble. If exporters could send shipping requirements to one centralized private agency, the export agent could guarantee sufficient cargo to warrant more frequent sailing. The arrangement would be even more satisfactory if the requirements of Malaysian exporters were known in Thailand and so forth.

Freight rates and port facilities.— High freight rates constitute a major difficulty faced by any small country which has no shipping fleet and which must rely on foreign ships. Products using essentially domestic raw materials are generally low-priced bulky goods on which freight rates may amount to 25-50 percent of the C & F price. Japanese freight rates in general amount to about one-fourth of those charged from Thailand, and Bangkok-Tokyo rates are dearer than Tokyo-Bangkok. The bulky, heavy nature of these goods (cement, canned goods, wood products) also accounts for the number of complaints about inadequate port facilities (ranking number 10 on the list of obstacles). These products are difficult to load, and in Malaysian and Thai ports must be ferried by lighter to ships waiting in deeper water. Manufacturers in Thailand say that warehousing and inspection facilities are oriented to imports, and that exports must be kept on expensive trucks until ships are ready to load them.

Of the 10 major obstacles to export, transportation problems dominate. It is obvious that, outside of Singapore, Southeast Asia is suffering from terrible external transportation problems which may be modified by some co-operation among governments through such organizations as ASEAN. Promotion of exports in the area might be given in the form of direct freight subsidies or tax deductions on freight which would give the Southeast Asian countries a collective advantage (or fewer disadvantages) in international markets. Such a step should be a co-operative one, however, because it is aimed at making Southeast Asia as a whole more competitive with East Asian countries

and other developing areas. If freight rates could be standardized throughout Asia according to distances involved, it would be even more advantageous. Improvements of port facilities for exports or freight subsidies may constitute the first step in an export promotion strategy which the governments can implement themselves. Generally, export processing zones have alleviated transportation problems considerably. Government assistance to set up such zones would be an important component of export promotion schemes. In addition, if exporters could organize themselves, they may get concessions from the conference lines on freight rates. In Taiwan, for example, the lines give exporters discounts for using their ships. In Southeast Asia exporters have to pay premiums to secure space on a ship. Negotiations over ship space should be handled by export agents who can bargain from the volume of goods to be shipped.

Marketing problems

Regional competition.— The fourth and ninth most frequently mentioned obstacles are closely related and fall under the marketing category: "*Keen competition among countries of the region*", and "*prices too high to be competitive*". Although these obstacles were mentioned by businessmen in all the countries, Korea and Taiwan generally are concerned with competition between themselves and with Japan. Only nine out of 57 firms in Taiwan and Korea mentioned keen competition as an obstacle but not one of them thought that their prices were too high. In any case, keen competition faces Taiwan and Korea because they do have the ability to compete on the international market with developed country suppliers by offering low prices and relatively high quality. The competition between the two countries should diminish somewhat as businessmen increasingly co-operate and specialize in different commodities. Products from Southeast Asia, on the other hand, may not be price competitive for two reasons — the relatively high costs of production in Southeast Asia (as compared to East Asia and South Asia) and the low (sometimes subsidized) export prices prevailing in competing areas. At the present time many products from Thailand, Malaysia and the Philippines may sell for approximately 10 to 20 percent above the prices quoted by, say, Taiwan, Korea and India. The main reason the products of Southeast Asia are not competitive is that costs of raw materials, taxes and freight rates are high. Labour rates may be higher than they appear due to lower productivity than in Taiwan or Singapore. However, prices from Southeast Asia might still be competitive with those from East and South Asia if it were not for the aggressive export promotion drives which the latter countries have been conducting for several years. By obtaining tax rebates efficiently and sometimes subsidies, industrialists in Korea or Taiwan may be able to set export prices below or at the margin of production costs. With lower freight rates per mile (as well as lower fuel and electricity costs) the final C & F price could be considerably lower than that from Thailand or the Philippines. Although a manufacturer in Southeast Asia might be able to obtain his domestic raw materials and labour rather cheaply, he may not be able to compete with a producer in Taiwan, where factories are run more efficiently.

The keen competition in the area for exports of these products results from the fact that such industries using local raw materials or labour-intensive methods (comparative advantage) are the first to appear in all developing countries. Thus, these are the industries which are especially promoted in other developing countries. We find that price under-cutting is a common practice in the area, since each country's main advantage over his neighbour would be lower prices. International buyers encourage this sort of competition by writing to many firms in many countries and buying at the lowest price. This problem will only be solved if manufacturers within a country can minimize cut-throat competition and begin to co-operate. Manufacturers associations in the various countries might be able to develop pricing policies which would work to everyone's advantage. Co-operation among manufacturers has gone a long way in Taiwan, and Southeast Asia may be able to learn from such an example.

Tariff and non-tariff barriers to export.— The fifth most important constraint according to the sample of businessmen, and perhaps the most important barrier to trade in trade theory, results from discriminatory policies in foreign countries. "*Difficulties in gaining access to foreign markets due to their import restrictions*" encompass both tariff and non-tariff barriers to trade. This obstacle was mentioned by 33 firms, or 19 per cent of the total sample. Aside from high im-

port tariffs in developed countries, the main problem under this category is import quotas, the most explicit form of direct non-tariff barriers (NTB). Other NTB such as health and security regulations, excise taxes or subsidies to protect the domestic industry were not mentioned as constraints by any of the businessmen interviewed. Thus the major barriers under this category are tariffs and quotas.

Non-tariff barriers.—Nine of the complaints in this category came from producers of garments and textiles, who have been adversely affected by quotas in the US, UK, and Canada. The textile industry is the most heavily protected industry in the developed countries. Most developed countries have one or more forms of quantitative restrictions on textiles, ranging from the least restrictive liberal licensing to the most restrictive bilateral quotas and "*voluntary export restraint*" agreements. Australia employs a relatively less restrictive global quota but heavily supplements this with tariffs. Germany has the most comprehensive system of restriction on the imports of textiles and garments: some of the quotas discriminate in favor of associated members of the EEC [G3, p. 21]. Japan has no direct quotas on textiles and import tariffs of no more than 21 per cent on garments; however, other non-tariff barriers do exist. Quotas from developed countries have been imposed on countries in East Asia (including Japan) to some extent since the late 1950's. Those on cotton textiles have been somewhat institutionalized under GATT in the Long Term Agreement regarding International Trade in Cotton Textiles (LTA) which was signed by 19 countries in 1962 for a 5-year period [G1, pp. 187-210]. The LTA has been renewed twice since that time, and still remains in force, controlling most of the world trade in cotton textiles. In response to such restrictions, the countries of East Asia and, to some extent, Southeast Asia, have moved more into the production of non-cotton goods and more highly processed and sophisticated textile products and garments. The higher stages of processing allow the exporter to gain more income since the LTA are expressed in quantity rather than value terms. However, the change in orientation of the textiles produced in East Asia led to further US restrictions against these countries in October 1971, including quotas on synthetic fabrics and made-up goods from non-cotton textiles. In recent negotiations on a renewal of the LTA, the US and the EEC have been pushing for a new multilateral, multifibre agreement. In response the developing countries under UNCTAD have urged that restrictions on exports from the third world be lifted.

The reason that the US and other developed countries impose such quotas is to improve the weak competitive position of their declining domestic industries. Such quotas would be justified if they were used simply to gain time while the country introduces structural adjustments into its industrial sector. However, this kind of adjustment does not seem to be taking place outside of Japan. Instead, it is often the case that inefficient textile industries using obsolete machinery are allowed to continue production in the developed country or that more capital-intensive methods are introduced into the industry. Thus, it is probable that the quotas will not be lifted, since vested interests have formed which oppose abolition of quotas. The countries of East Asia have been forced to accept more stringent quantitative restrictions which hinder their export and which will probably become more protective rather than more liberal.

The US quota especially has had a very negative effect on the textile and garment industries in both East and Southeast Asia. The countries of East Asia (Taiwan, Hong Kong, and Korea) have been most severely affected, because export earnings in these three depend heavily on textiles and garments. The major markets for their rapidly expanding exports have been US chain stores, which constitute a consistently growing institutional market. Because exports to that market are now restricted to very low growth rates, some firms have cut back production and are looking for new markets. The quota restrictions have also affected Thailand, Malaysia, Singapore and the Philippines, but to a lesser extent. While the countries of Southeast Asia had some difficulty filling their quotas in the early 1970's, quotas for East Asia were generally completely filled with no strain on domestic industries. In all seven countries, the governments allocate a portion of the US quota to each major garment (or textile) manufacturer based on past performance, restricting new firms from entering the industry and favoring the large well-established firms. Such policies may encourage distortion in the industries of the developing countries, as well as in the industries of developed countries which impose quotas. Similar to quota restrictions on textiles and garments

are restrictions placed on footwear, another labour-intensive commodity for which Asian countries have now shown their comparative advantage. Strict quotas are not only imposed by the US, but also by Japan and the EEC countries, all of which have highly-developed but increasingly uncompetitive footwear industries. Agricultural commodities are also often restricted by world wide quota arrangements. In our survey, both sugar and vegetable oils are affected to some extent by quota arrangements. At the present time, quotas (basic export tonnages) from the International Sugar Organization have been suspended, due to high international prices and a world shortage of sugar. However, the sugar trade is still conducted mainly through preferential sugar agreements which entail quotas, and the ISO is presently in the process of revising ceiling prices in order to introduce new quotas. Coconut oil exports from the Philippines to the US are limited by quotas, although there is no tariff imposed, while exports of copra are not limited by either quotas or tariffs. This constitutes discrimination against the processing component. In addition, most vegetable oils are discriminated against by high import tariffs in developed countries (including Japan and Australia). Japanese tariff rates discriminate heavily against oils in favor of raw seeds [G1, p. 129].

It is also worth mentioning that most commodity items subject to strong quantitative restrictions fall under SITC Section 6, the resource-based manufactures, in which the Southeast Asian countries tend to have a comparative advantage. Also subject to restrictions are some labour-intensive manufactures such as tableware and electronic equipment [G3, p. 22].

Tariff barriers.—Complaints about high tariffs rather than quotas were recorded in the plywood, furniture and canned goods industries. Tariffs on plywood and veneer imposed by developed countries are substantially higher than tariffs on sawnwood and round wood. Despite high tariffs, four countries in the region (Japan, Korea, Taiwan, and the Philippines) have built up worthwhile export markets in plywood and the Philippines exports veneer. All of these exports depend heavily on one market — the US. In the case of the Philippines, preferential treatment is accorded by the US, but the other exporters have surmounted the tariff barrier. In order to gain a portion of the highly-protected market for processed wood products, these countries must produce very efficiently and sell at very low prices. The same is true for furniture exports [G1, p. 128]. Import duties on canned goods are generally high due to domestic industries in developed countries. For example, the tariff on canned pineapple imported into Japan is 55 per cent whereas import duties on other canned goods are approximately 25 per cent. This is due to the developing industry in Okinawa, which certainly will hurt the competitive position of exporters from Southeast Asia.

However, products from East Asia have been able to penetrate DC markets despite tariff barriers. For items in which value added is significant, they can jump over any tariff barriers that the DC's can reasonably impose. This is an important reason why the DC's have moved from tariff barriers to quantitative restrictions. The competitiveness and energy of the East Asian countries have stimulated US protectionist moves in recent years and have given rise to particularly discriminatory barriers in Europe. The labour-intensive and resource-based commodities on which most of the barriers have been imposed are the ones in which Asian countries have comparative advantage. Low labor costs in Asia should not constitute a legitimate ground for restricting imports, if the theory of comparative advantage is to have any meaning at all [G1, p. 192]. Since the marginal productivity of labour in an industry such as textiles is probably higher in Hong Kong and Taiwan than in the US, the latter must find some alternative industry in which its workers would have comparative advantage. Then quantitative restrictions would no longer be necessary. If world trade is to be rationalized, it is on these commodities that negotiations between DC's and LDC's should begin.

For their part, the EEC, Japan, and Australia have implemented generalized tariff preference schemes which apply to all developing countries, and the US has proposed such a scheme. This represents a favorable trend if commodities of interest to developing countries are included in such schemes in future. However, at present these preferences seem to affect only a small percentage of imports, due to the extensive use of exceptions and escape clauses for "sensitive" products. If the developed countries were to liberalize trade restrictions on commodities such as textiles, plywood, and canned

Table 6.3: Occurrence of obstacles to export from developing Pacific Asian countries

Number of firms	Obstacles: code:	Government						Production						Finance						Transport						Marketing							
		1	2	3	4	5	6	1	2	4	5	6	1	2	3	4	5	6	1	2	3	4	1	2	3	4	5	6	7	8	9	10	
17	Frozen seafood	3	1		1	1		12	1	2	2	3	2				1		7	3	6	2		2	1		1	3					
13	Canned goods	1		3				9	1	3							1		2	3			1	1	4		1	4					
5	Sugar			1					4											1	1	2			2		1						
9	Tea	2						5	3	3	1	1							1	1	3		1		2	4	2	2					
5	Tobacco				1				4								1	2															
2	Copper ores			1																							1						
14	Vegetable oils	2	3	1				5		1	2						1	1		4	2	3		1	1	3	2	4	1				
7	Rubber tyres	1	2	1	3			1	1	1	1						2		2	3	3	1			1	1	2	1	4	1			
22	Plywood and logs	2	9					11	1	3	1	2	2				2	1	6	3	10	2			2	4	2	5	1	7			
11	Textiles	3	5		2			1	4	1							1	1		1	1	1			1	3	2	4					
11	Cement		1	1	2				2								1	1	1	2		6	2	2	2	4		1	2	2	3	3	
9	Iron and steel bars	1	1	3	1			3	1		1						1	1		4	1	6	1		1	1	1	1	2				
4	Tableware	1			1			2		2							1								1		2	1					
7	Radio and TV	2	2		1			2			1	1					1			2				1		3		1	5	1			
9	Furniture	2	1					3	1		1						1	1	1	3	5		2	1	2	2	1	1					
3	Travel goods							3		1	1						1			1					1	1			2				
18	Garments	4	1	6	1			4	1	6		3					1	2	6	2					1	6	1		4	3			
9	Footware	2	2					4	1								1	1	1	1	3	2			2	2	5	3					
	Total	26	15	1	28	11	6	73	11	6	23	4	12	9	3	5	11	9	5	46	19	45	14	7	1	14	5	33	6	22	15	45	10

For description of obstacle-code, see Table 6.4.

Table 6.4: Obstacles to export of industrial commodities

Government

1. Red tape in trying to export.
2. Difficulties and delays encountered in trying to obtain export incentive benefits—especially refund of import duty on raw materials.
3. Duty on finished goods not adequate to prevent large importation.
4. Unusual discrimination — specific duties on certain commodities, import or export basis, quotas, export tax.
5. No export bonus scheme.
6. High business, municipal and income taxes.

Production

1. Difficulties with local raw materials — high costs, low-quality, inadequate supply.
2. Inability to take advantage of economies of scale.
3. High fuel and electricity costs.
4. Labour problems — lack of skilled and/or reliable workers, high costs of labour.
5. Inadequate infrastructure — communications, water supply, etc.
6. Continued utilization of obsolete techniques.

Finance

1. High interest rates of commercial banks.
2. Credit facilities cater to short-term loans.
3. Liquidity problems resulting from the extension of credit to customers or producers.
4. Inadequate resources at banks and government lending institutions to meet the needs of new or expanding industries.
5. Difficulties in obtaining letters of credit, preferential discount rates.
6. World monetary crisis.

Transportation

1. Inadequate number of ships and sailings to foreign ports.
2. Poor warehousing and inspection facilities at the wharf for exports.
3. Freight rates too high to be competitive.
4. Transport to the port inadequate or expensive; port charges very high.

Marketing

1. Lack of knowledge and/or information about foreign markets.
2. No general marketing survey service.
3. Export products have a reputation for inferior quality.
4. No effective trade centres or trade commissions abroad.
5. Difficulties in obtaining access to foreign markets due to their import restrictions.
6. Dumping by other countries on the international market.
7. Prices too high to be competitive.
8. Oversupply on the world market, great fluctuations in world demand.
9. Keen competition among countries in the region.
10. Changing tastes in world markets.

goods, they would gain from developing countries' comparative advantage. Such liberalization would entail a loss of protection to domestic industries, however, and the necessity to shift resources out of inefficient sectors into industries that have high future productivity. It is essential for developed countries to reduce trade barriers on either a general or a preferential basis both to ease hindrances to the development of LDC's and to achieve a better allocation of world resources. At the same time, they must introduce meaningful domestic adjustment assistance programs, such as those in Japan. If the developed world seriously wants the countries of Asia to develop, it must encourage development along lines of comparative advantage. In addition, the LDC's must adopt better methods of conferring and coordinating their policies and actions *vis-à-vis* the developed countries. Much of the discrimination practiced by the developed against the developing countries has been achieved because of the lack of collaboration among the developing countries. A united front would considerably increase the bargaining power to the LDC's.

Government policies

Two major difficulties arise from the government category, but these seem less significant than those obstacles previously discussed. The problems in this category were each mentioned by less than 20 percent of the total firms interviewed. The main difficulty listed under government policies and mentioned by 16 percent of the firms is "*Unusual discrimination – import or export bans, quotas, export taxes, etc.*" The purpose of such "*discrimination*" is generally not to block trade, but to achieve some other economically or socially desirable objective. The industries which noted this problem most frequently were plywood, garments, iron and steel bars and rods, vegetable oils and canned goods.

Unusual discrimination.—Discrimination in the plywood industry takes the form of restrictions on log-cutting, and bans on the import of logs, mainly in Malaysia and Thailand. Government action is based on a genuine fear concerning the rapid depletion of forests in Southeast Asia. Government action seems to be legitimate in this case, since depletion has resulted from indiscriminate cutting of forests in the area. The real problem is that the forest resources available are poorly utilized and wasted. The governments might try to encourage more efficient use of resources in addition to other measures. Discrimination in the garment industry results from the government's allocation of quotas received by developed countries. When a rapidly growing firm receives only a small share of the US quota, it feels it results from government policies. However this situation is much less a result of local discrimination than of US restrictive policies. Discrimination in the steel bars and rods industry is presently being felt in Malaysia, Singapore and Thailand. Export bans have been imposed in all three countries due to fears of shortages in the area. The market in Indonesia and the Middle East is still large, but a world shortage has caused the governments to place restrictions on exports. Vegetable oils exported from the Philippines and Malaysia are restricted by export taxes which the governments impose in order to earn revenue. Discrimination against exports of canned goods is felt in Taiwan where the government places a quota on exports in order not to saturate the world market. Such taxes and quotas have been imposed in order to help the nation as a whole, but they have not assisted producers to expand exports.

This type of discrimination against export will only be solved if the governments adopt a more aggressive export policy. Taiwan is an exception in this case, as the government has restricted exports because of the success of canned goods firms. However, chances are that the laws of supply and demand and resulting low prices from excess supply would induce exporters to impose their own restraints. In general, Korea and Taiwan place very few restrictions on exports due to their aggressive export promotion policies. Aside from the US quota allocations, most of the government restrictions (especially export taxes) could probably be lifted. Such restrictions should be subject to constant revision on the part of the governments. In order to achieve the best mix of policies which would provide sufficient resources to industry without having adverse effects on the country as a whole, public and private sectors must cooperate. It is the lack of cooperation between the two which, in many cases, has resulted in discrimination against business.

Red tape.— The other obstacle coming under the government category is "*Red tape in trying to export*". This is one area in which the governments must begin to improve the export climate immediately, especially in Southeast Asia. Problems with red tape are very common in the region, and especially irritate foreign investors. The numbers of agencies and the amount of paperwork involved in export are unbearable to many industrialists. In Taiwan, Korea and Singapore, export procedures have been streamlined so that red tape is no longer the object of constant frustration. However in other Southeast Asian countries, a variety of customs and other regulations governing exports must be simplified in order to encourage increased exports from the region. This sort of difficulty is inexcusable and should be corrected by the government involved. No export scheme will work unless the government makes it as easy as possible and enforces its own policies.

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